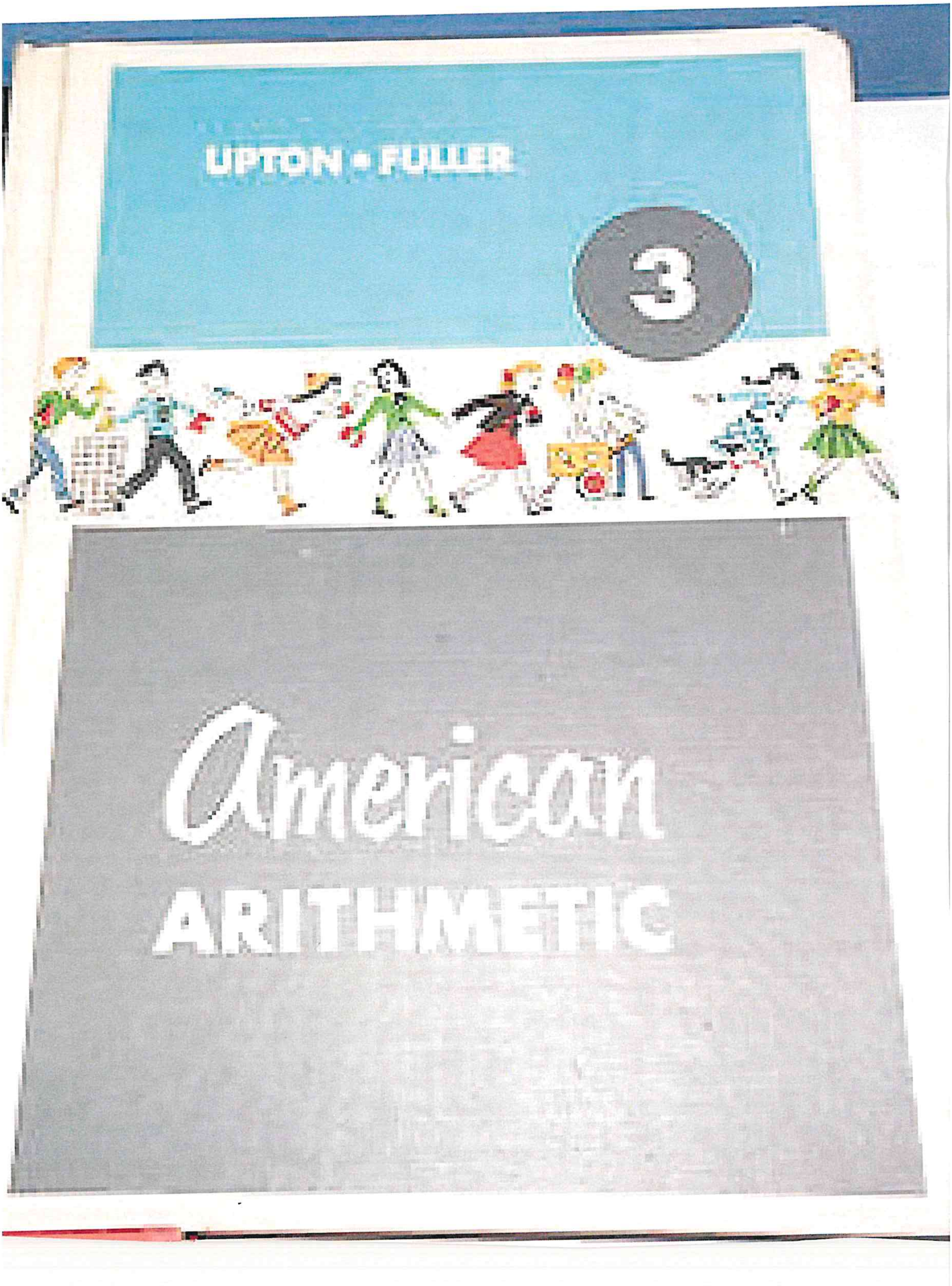

UPTON • FULLER

3

American
ARITHMETIC

3

Clifford B. Upton · Kenneth G. Fuller

American ARITHMETIC

AMERICAN BOOK COMPANY

AMERICAN ARITHMETIC, GRADE 3

Clifford B. Upton, Teachers College, Columbia University, New York, N. Y.
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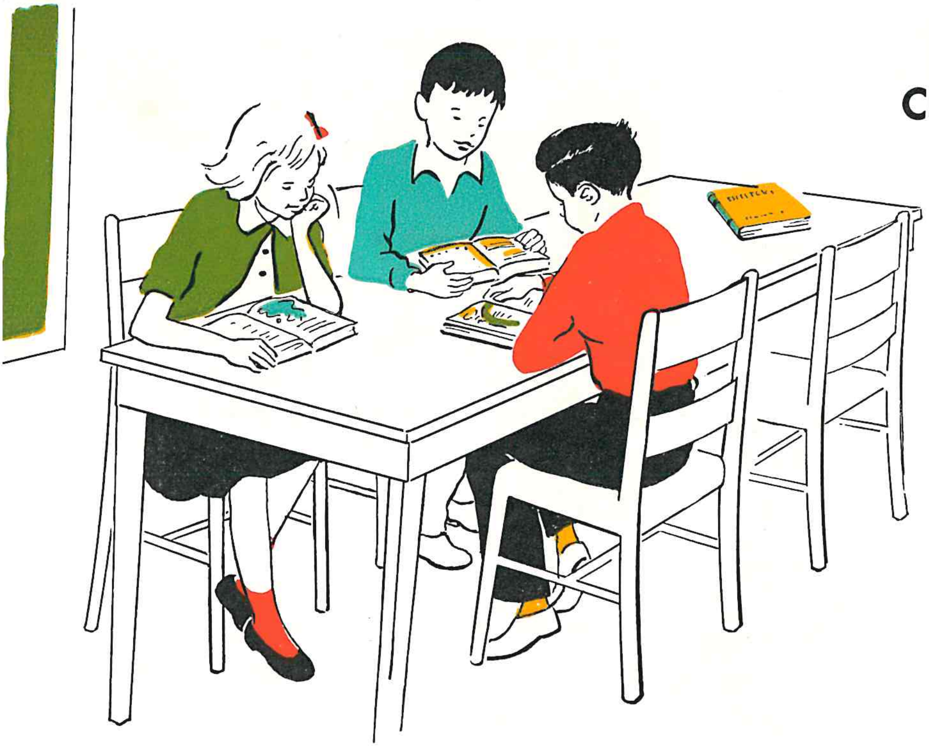


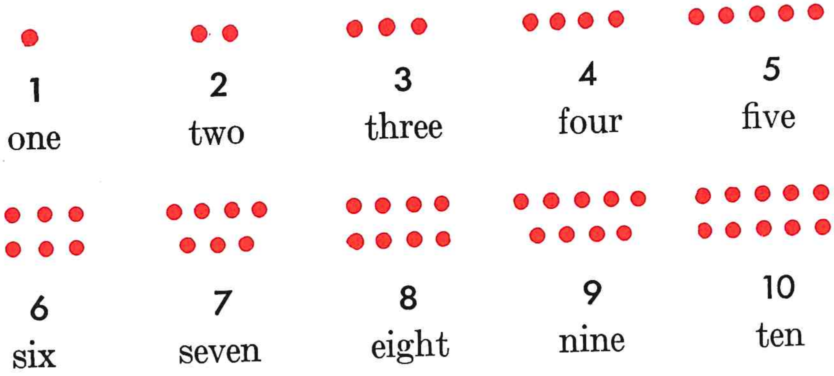
Chapter 1

At School

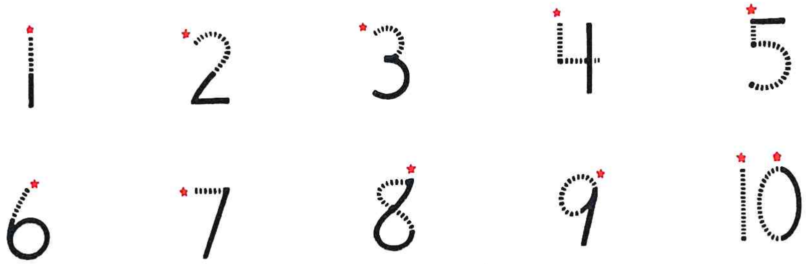
1. How many children do you see in all?
2. How many girls do you see? How many boys?
3. How many children are sitting down?
4. How many children are reading?
5. How many girls are reading? How many boys?
6. Can you count higher than 9? Try to count all the children in your room at school.
7. Count the girls in your room at school.
8. Count the boys in your room.
9. Are there more girls than boys in your room?
10. Say the numbers from 1 to 10.

Numbers from 1 to 10

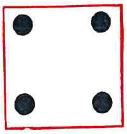
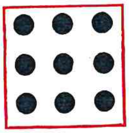
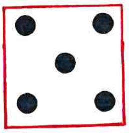
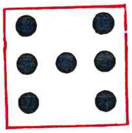
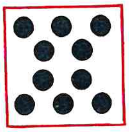
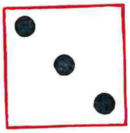
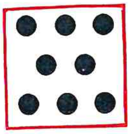
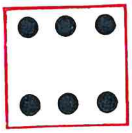
1. Here are the numbers from 1 to 10 with their number names. Read them:



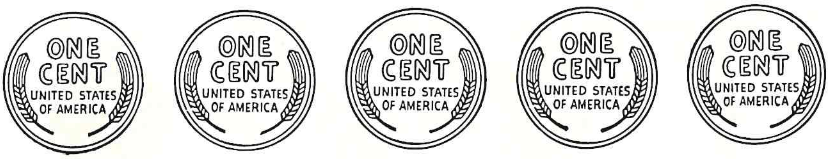
2. Look at the numbers below. See how to write them. Write them on your paper. Begin with the star. Make the dotted part first:

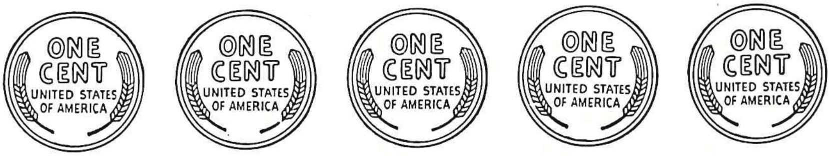


3. Tell how many dots there are in each box:

Learning about Money

A


B


1. Count the pennies in row A. Count them in row B. How many are there in rows A and B together?

2. Another name for penny is **cent.** How many cents are there in rows A and B together?

3. Jack has a nickel. He says that 5 cents or 1 nickel will buy a new pencil. 5 cents make 1 nickel. You see a picture of a nickel here.

4. The sign ¢ means cent or cents. You can write 5 cents like this: 5¢.

A Nickel
5 cents

5. Ann has a dime. She says that 10 cents or 1 dime will buy a balloon. 10 cents make 1 dime. You write 10 cents like this: 10¢. Look at the dime shown at the right.

A Dime
10 cents

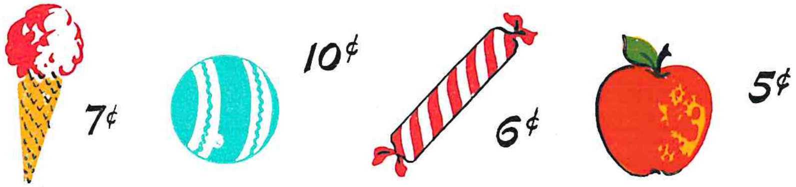
6. Can you tell how many nickels make **1** dime?

7. Remember this:

5¢ make 1 nickel.
10¢ make 1 dime.
2 nickels make 1 dime.

8. Pennies, nickels, and dimes are called **coins.**

More about Money



1. Look at the pictures and tell what coins you could use to buy each thing.
2. Name the coins you could give to pay for each of these things:

a 7-cent ball	a 5-cent rabbit
a 9-cent duck	a 3-cent cookie
a 4-cent apple	a 10-cent toy

3. Read these: 9¢, 5¢, 2¢, 6¢, 10¢, 7¢, 4¢.
4. Use play coins and buy things that cost these numbers of cents: 3¢, 10¢, 8¢, 1¢, 9¢, 7¢.

Do You Know the Numbers?

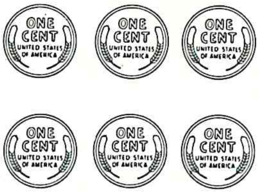
5. What number comes after 8? after 3? after 6?
6. What number comes before 5? before 7?
7. What number is 1 more than 7? 1 more than 2?
8. How old are you now? Write the number.
9. How old will you be next year? Write it.
10. Write these numbers in order. Begin with the smallest number:

7 2 9 5 1 4 8 3 6

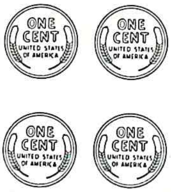
11. Count your pencils. Count your books.

Groups of Pennies

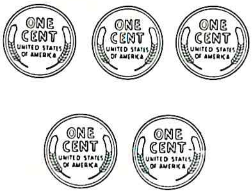
1. Each child has some pennies. Look at them and tell how many pennies each one has.



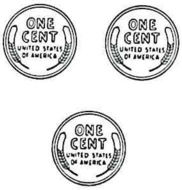
Tom



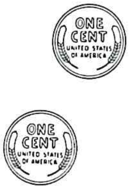
Ann



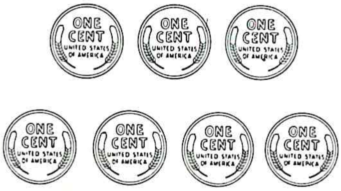
Jim



Betty



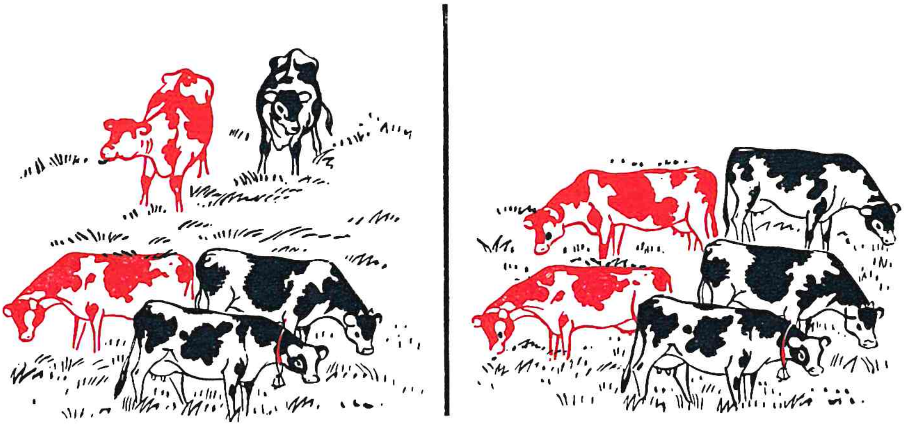
Mary



Bob

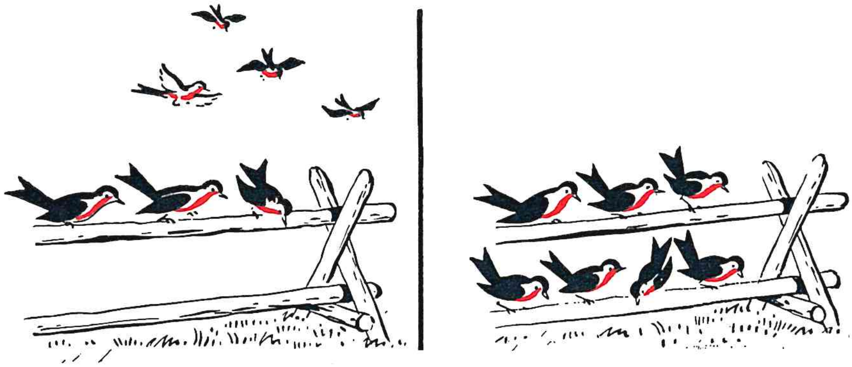
2. Which child has a group of 6 pennies?
3. Which child has a group of 3 pennies?
4. Which one has a group of 5 pennies?
5. Which group has the most pennies in it?
6. Does Tom have more pennies than Mary?
7. Does Ann have more pennies than Jim?
8. Which child has a group of 4 pennies?
9. Does Bob have more pennies than Mary?
10. Does Betty have more pennies than Jim?
11. Does any child have a group of 9 pennies?
12. How many pennies have Tom and Ann together?

Putting Groups Together



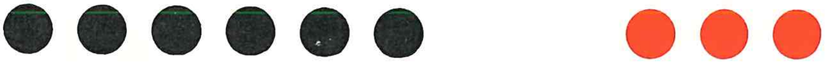
1. Three cows were eating grass. Two more cows came to eat grass. How many cows were eating grass then?

   How many are 3 cows and 2 cows?
   How many are 2 cows and 3 cows?



2. Three birds were on a fence. Four more birds flew down to the fence. How many birds were on the fence then?

   How many are 3 birds and 4 birds?
   How many are 4 birds and 3 birds?



1. How many dots are black?
How many dots are red?
How many dots are there in all?

2. How many stars are red?
How many stars are black?
How many stars are there in all?

3. How many boxes are black?
How many boxes are white?
How many boxes are there all together?

4. How many dots are red?
How many dots are black?
How many dots are there all together?

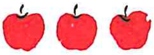
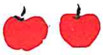
5. 6 dots and 3 dots are how many dots?
3 dots and 6 dots are how many dots?

6. 4 stars and 5 stars are how many stars?
5 stars and 4 stars are how many stars?

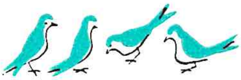
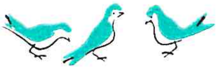
7. 5 boxes and 5 boxes are how many boxes?

8. 4 dots and 4 dots are how many dots?

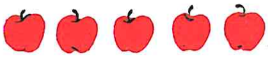
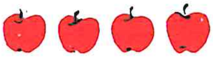
Putting Groups Together

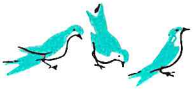
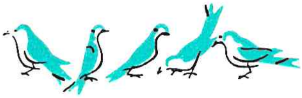
1. How many apples are in this group? 
How many apples are in this group? 
How many apples are there in all?

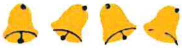
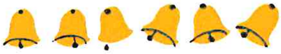
How many apples are 3 apples and 2 apples?
How many apples are 2 apples and 3 apples?

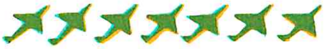
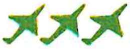
2. How many birds are in this group? 
How many birds are in this group? 
How many birds do you see all together?

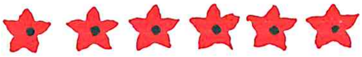
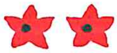
How many birds are 4 birds and 3 birds?
How many birds are 3 birds and 4 birds?

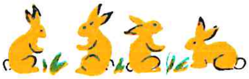
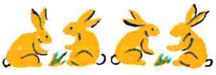
3.  and  are . . . apples.

4.  and  are . . . birds.

5.  and  are . . . bells.

6.  and  are . . . airplanes.

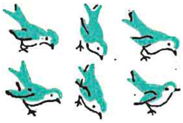
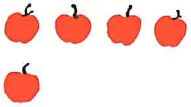
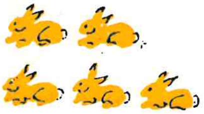
7.  and  are . . . flowers.

8.  and  are . . . rabbits.

To the Teacher. Caution pupils never to write in their books to fill in blank spaces.

How Many Are There in All?

Tell how many are in the two groups together:

1.	3 3		4 1		2 3	

2.	6 bells	4 airplanes	7 cats
	3 bells	5 airplanes	1 cat
3.	5 balls	4 pennies	2 boys
	1 ball	3 pennies	4 boys

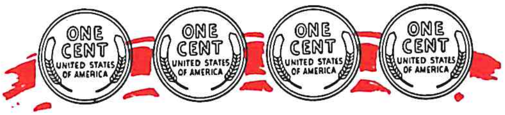
4. When you find that 2 pennies and 5 pennies are 7 pennies, you are **adding.** You **add** 2 and 5 to get 7. 7 is called the **sum.**

2 pennies
5 pennies
7 pennies

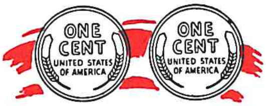
Add these numbers:

5.	4	5	1	8	6	4	3	6	5
	5	2	8	2	1	3	6	2	5
6.	4	3	7	1	4	1	9	3	2
	2	7	1	4	4	3	1	5	7
7.	1	2	2	6	1	6	3	1	3
	9	3	1	3	5	4	1	1	3
8.	5	1	2	3	4	2	5	3	7
	3	6	8	4	1	5	4	2	3
9.	4	2	5	7	1	8	2	2	1
	6	6	1	2	2	1	4	2	7

Adding Numbers



Jim's Pennies



Bill's Pennies

1. How many pennies has Jim? How many pennies has Bill? How many pennies do the two boys have? 4 pennies and 2 pennies are how many pennies?

2. When you say "4 and 2 are 6," you **add** 4 and 2. Write 2 under 4. The **sum** is 6. This is an **addition** example. It is also called an **addition fact.** A new way to write "4 and 2 are 6" is like this:

$$\begin{array}{r} 4 \\ +2 \\ \hline 6 \end{array}$$

$$4 + 2 = 6$$

$+$ means **and** or **plus.**
$=$ means **are** or **equals.**

The sign $+$ tells you to add.

Find the sums:

3. $3 + 7 =$ $2 + 4 =$ $5 + 3 =$ $6 + 1 =$
4. $6 + 3 =$ $1 + 7 =$ $4 + 6 =$ $7 + 2 =$
5. $2 + 5 =$ $5 + 4 =$ $1 + 9 =$ $4 + 4 =$
6. $3 + 3 =$ $2 + 8 =$ $1 + 5 =$ $3 + 6 =$
7. $6 + 2 =$ $1 + 4 =$ $2 + 2 =$ $5 + 5 =$
8. $1 + 8 =$ $2 + 3 =$ $7 + 3 =$ $5 + 2 =$
9. $3 + 4 =$ $3 + 5 =$ $4 + 2 =$ $4 + 5 =$
10. $2 + 7 =$ $6 + 4 =$ $1 + 1 =$ $3 + 2 =$
11. $9 + 1 =$ $2 + 6 =$ $4 + 3 =$ $8 + 2 =$

Number Stories

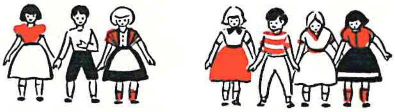
1. Ann had 2 pencils. She bought 1 new pencil. How many pencils has Ann now?

2. Jim saw 5 black birds and 3 red birds. How many birds did Jim see?

3. Jane picked 3 white flowers and 6 red flowers. How many flowers did Jane pick?

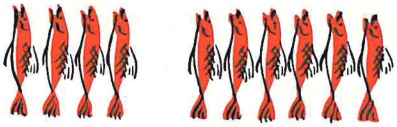
4. Dick had 7 pennies. His father gave him 3 pennies. How many pennies has Dick now?

5. Mary has 3 dolls. Betty has 4 dolls. How many dolls have the girls together?



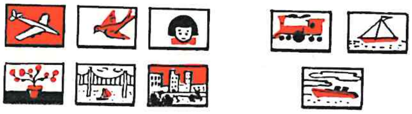
6. Bill picked 5 apples. Then he picked 4 apples. How many apples did Bill pick?

7. Jack caught 4 fish. Billy caught 6 fish. How many fish did the two boys catch?

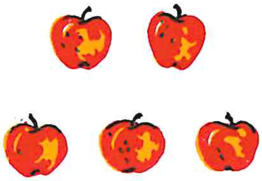


8. Bob bought 1 turtle. Today he bought 3 turtles. How many turtles did Bob buy in all?

9. Alice cut out 6 pictures. Then she cut out 3 pictures. How many pictures did Alice cut out all together?



How to Help Yourself

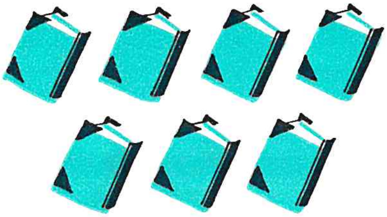


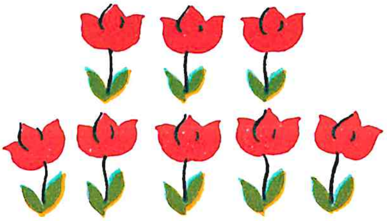
1. How many are 2 apples and 3 apples? How many are 3 apples and 2 apples? You see that both the sums are the same.

2. The addition facts 2 + 3 and 3 + 2 make a **pair of facts.** The numbers in 2 + 3 are just like those in 3 + 2 but they are **turned around.** You see that 2 + 3 and 3 + 2 both have the same sum: 5.

$$\begin{array}{r}2\\+3\\\hline 5\end{array}\qquad\begin{array}{r}3\\+2\\\hline 5\end{array}$$

3. Tell the pair of addition facts that each picture shows:





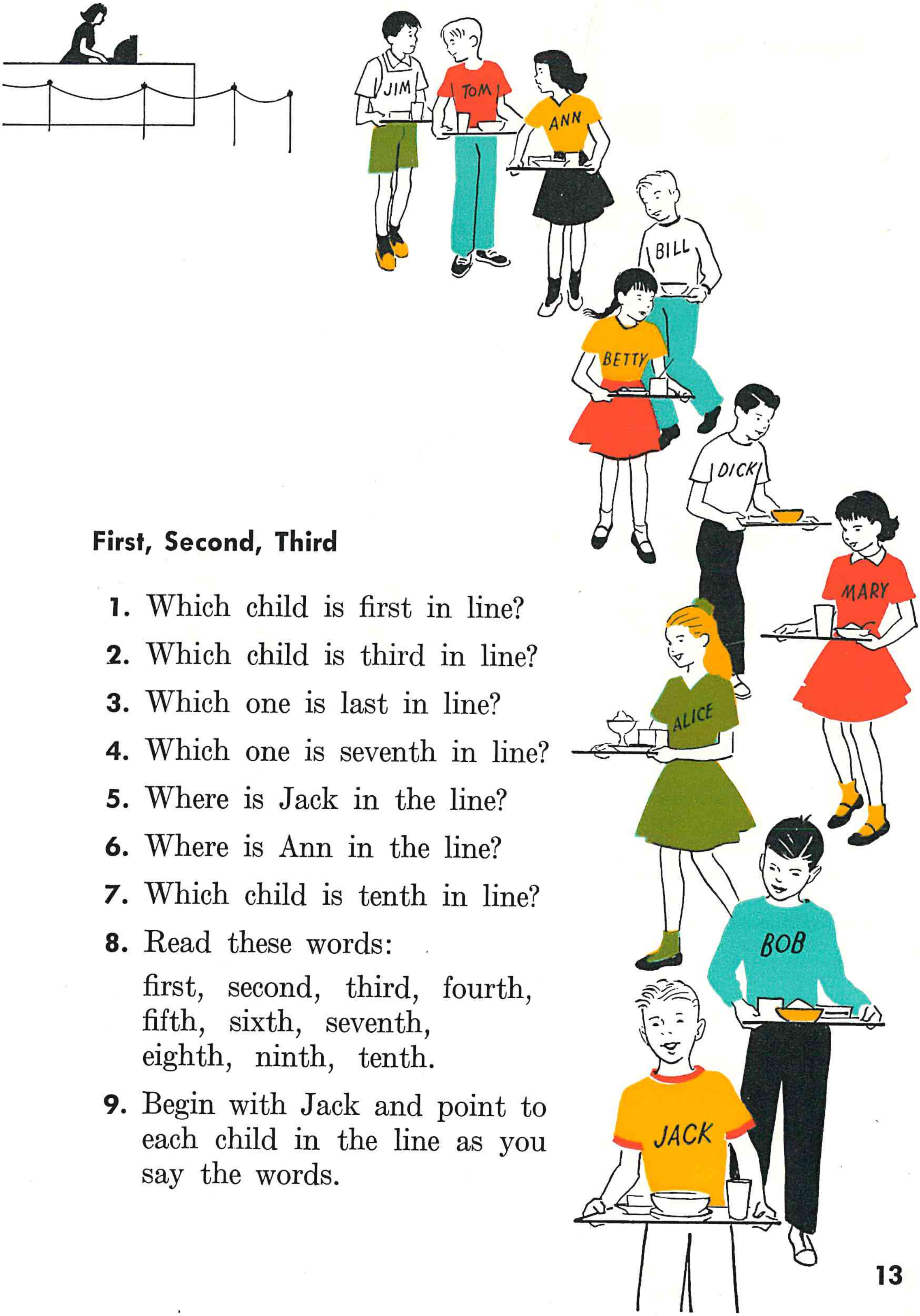
4. Jim forgets the sum of 3 and 7. He turns the numbers around and gets 7 + 3. He knows that 7 and 3 are 10. This tells him that 3 and 7 are 10.

$$\begin{array}{r}3\\+7\\\hline \end{array}\qquad\begin{array}{r}7\\+3\\\hline 10\end{array}$$

Suppose you forget the sum of the numbers in each fact below. Turn the numbers around and then try to add them:

5. 3 + 4 4 + 5 1 + 7 4 + 6 2 + 8
6. 2 + 5 3 + 6 2 + 6 3 + 5 1 + 9

If you forget an addition fact, turn the numbers around. Then try to add them.



First, Second, Third

1. Which child is first in line?
2. Which child is third in line?
3. Which one is last in line?
4. Which one is seventh in line?
5. Where is Jack in the line?
6. Where is Ann in the line?
7. Which child is tenth in line?
8. Read these words:

   first, second, third, fourth,
   fifth, sixth, seventh,
   eighth, ninth, tenth.
9. Begin with Jack and point to each child in the line as you say the words.

Addition Facts

Say the sums to one of your friends. Learn the facts that you missed:

1.	5	6	3	2	3	8	3	2	5
	2	1	3	3	4	2	5	1	4
2.	7	5	1	5	2	3	8	2	5
	3	5	7	1	2	6	1	7	3
3.	3	4	9	4	1	1	1	1	3
	1	3	1	6	8	4	9	3	2
4.	4	1	4	2	1	6	2	7	2
	4	6	5	4	1	3	8	2	5
5.	4	7	2	1	6	3	1	6	4
	2	1	6	5	2	7	2	4	1

Here are number stories that use the first four facts above. Tell the answers:

6. Jim had 5¢. Then he found 2¢. Now Jim has . . . cents in all.

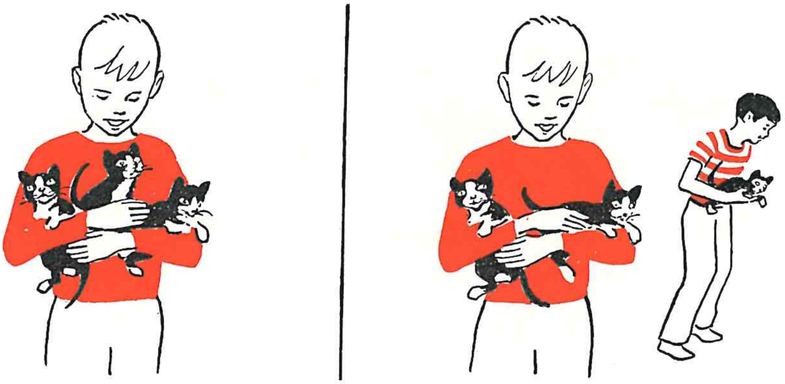
7. Susan had 6 books. She bought 1 book today. Now Susan has . . . books.

8. Jack has 3 candies. Bob has 3 candies, too. Together the boys have . . . candies.

9. Billy has 2 dogs and 3 kittens. Billy has . . . pets all together.

10. Tell a number story about each of the addition facts in row 2 above. Ask a friend to tell you the answers.

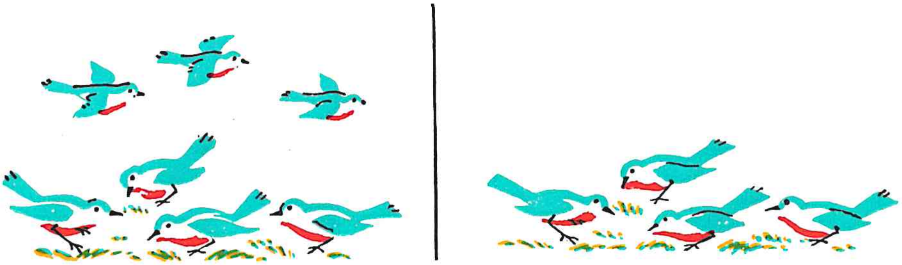
Taking Things Away



1. Jim had 3 kittens. He gave 1 kitten to Bill. How many kittens did Jim have left?

2. Mary's 4 dolls were in a big chair. Mary took away 1 doll. How many dolls were left in the chair?
3. Put 6 books on the table. Now take away 3 books. How many books are left on the table?
4. Put 8 pencils on the table. Now take away 5 pencils. How many pencils are left on the table?
5. Draw 9 dots on a paper. Take away 3 dots. Put your hand over them. How many dots are left?
6. Put 9 pennies on the table. Give 2 pennies to a friend. How many pennies are left on the table?

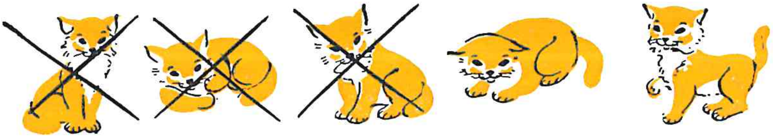
Taking Things Away



1. The picture at the left shows 7 birds. 4 birds are on the grass and 3 birds are flying away. In the picture at the right, the 3 birds are gone. How many birds are left?

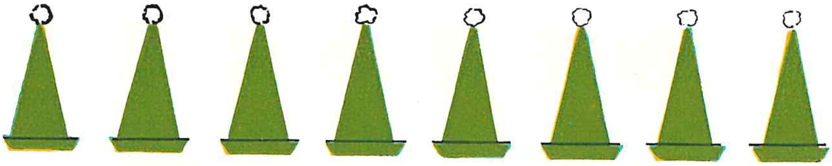
2. Here are 7 apples. Jack eats 2 apples. The lines across 2 apples show that these apples are gone. How many apples are left?

3. Tom has 5 kittens. He gives away 3 kittens. The lines across 3 kittens show that Tom gave away 3 kittens. How many kittens are left?

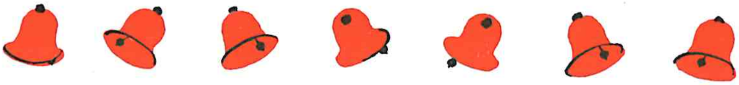


4. Ann had 6 pencils. She gave 2 pencils to Bill. How many pencils does Ann have left? Put 6 pencils on the table to show how many Ann had. Then take away 2 pencils. How many pencils are left?

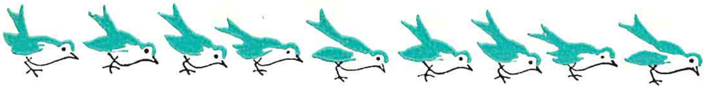
5. Peter had 10 pennies. Then he spent 3 pennies. How many pennies has Peter left? Use 10 real pennies or 10 play pennies to find the answer.



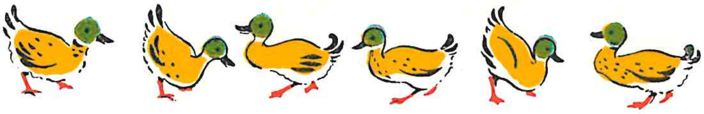
1. How many hats do you see?
   Take away 2 hats. Cover them with your hand.
   How many hats are left?



2. How many bells do you see?
   Take away 5 bells. Cover them with your hand.
   How many bells are left?

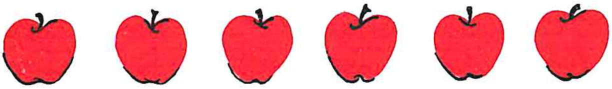


3. How many birds do you see?
   Take away 6 birds. Cover them with your hand.
   How many birds are left?



4. How many ducks do you see?
   Take away 4 ducks. Cover them with your hand.
   How many ducks are left?
5. 2 hats from 8 hats leaves how many hats?
6. 5 bells from 7 bells leaves how many bells?
7. 6 birds from 9 birds leaves how many birds?
8. 4 ducks from 6 ducks leaves how many ducks?

How Many Are Left?



1. Bill had 6 apples. He gave 2 apples to Ann. Put your hand over 2 apples. How many apples did Bill have left?

2. When you take 2 from 6 and find that 4 is left, you are **subtracting.** You write it like this: 6 − 2 = 4. The sign − is called the **minus** sign. It means **take away** or **subtract.** 6 − 2 = 4 is a **subtraction fact.**

3. Another way to write this fact is to put 2 under 6. The minus sign goes before the number that you take away. You read this "2 from 6 is 4" or "6 less 2 equals 4."

$$\begin{array}{r} 6 \\ -2 \\ \hline 4 \end{array}$$

Use these pennies to help you find the answers to the number stories below:

4. Ann had 9 pennies. Then she lost 2 of them. How many pennies did she have left?

$$\begin{array}{r} 9 \\ -2 \\ \hline \end{array}$$

5. Jim had 9 pennies. He spent 5 pennies. How many pennies did he have left?

$$\begin{array}{r} 9 \\ -5 \\ \hline \end{array}$$

6. Jack had 9 pennies. He put 7 pennies in his bank. How many pennies did Jack have left in his pocket?

$$\begin{array}{r} 9 \\ -7 \\ \hline \end{array}$$

You subtract to find how many are left.

Subtract these numbers:

1.	6 −3	8 −1	9 −6	5 −2	3 −2	10 −8	10 −4
2.	4 −1	7 −3	8 −5	6 −4	7 −1	10 −3	10 −9
3.	9 −3	2 −1	8 −2	6 −5	7 −2	10 −1	10 −7
4.	5 −4	8 −6	9 −5	7 −4	9 −7	10 −5	10 −2

5. 10 − 2 = 7 − 5 = 5 − 3 = 9 − 8 =

6. 10 − 4 = 6 − 1 = 8 − 7 = 4 − 3 =

7. 10 − 7 = 8 − 4 = 9 − 2 = 7 − 6 =

8. In the park there were 6 children playing a game. Then 2 children went home. How many children were left to play the game?

9. Sally picked 10 flowers in her garden. She gave her mother 6 flowers. How many did Sally have left?

10. Jack saw 4 rabbits. 2 rabbits ran away. How many rabbits were left?

11. Jim saw 9 birds on the grass. Then 4 birds flew away. How many birds were left?

Buying Things

Use pennies or draw dots to help you find the answers:

1. Ice cream costs 10¢. Susan has 5¢. How many more cents does she need to buy ice cream? 5¢ and how many cents are 10¢? 5 and . . . are 10.

2. Peter has 3¢. He wants to buy a red balloon for 10¢. How many more cents does he need? 3¢ and how many cents are 10¢? 3 and . . . are 10.

3. A candy rabbit costs 9¢. Dick has 3¢. How many more cents does he need to buy the rabbit? 3¢ and how many cents are 9¢? 3 and . . . are 9.

4. A toy truck costs 10¢. Billy has 6¢. How many more cents does he need? 6¢ and how many cents are 10¢? 6 and . . . are 10. 6 from 10 is . . .

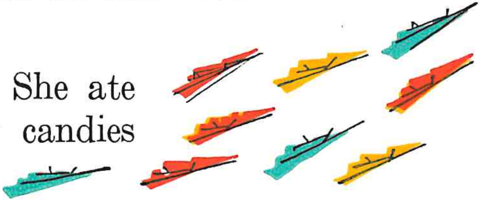
5. Ann has only 1¢ in her pocket. She wants to buy a lollipop for 4¢. How many more cents does she need? 1¢ and . . .¢ are 4¢. 1 and . . . are 4. 1 from 4 is . . .

6. A toy dog costs 9¢. Mary has 4¢. How many more cents does she need? 4¢ and how many cents are 9¢? 4 and . . . are 9. 4 from 9 is . . .

Say the answers to a friend. Learn the facts you missed:

1.	$\begin{array}{r} 4 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -2 \\ \hline \end{array}$
2.	$\begin{array}{r} 6 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -3 \\ \hline \end{array}$
3.	$\begin{array}{r} 7 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 4 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -8 \\ \hline \end{array}$
4.	$\begin{array}{r} 9 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 5 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$
5.	$\begin{array}{r} 5 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -5 \\ \hline \end{array}$
6.	$\begin{array}{r} 9 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$
7.	$\begin{array}{r} 6 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 8 \\ -5 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -7 \\ \hline \end{array}$

Here are number stories that use the first three facts above. Tell the answers:



8. Ann bought 4 candies. She ate 3 of them. How many candies did she have left?

9. Dick made 9 paper airplanes. The wind blew 5 of them away. How many airplanes did Dick have left?

10. Mother had 7 eggs in a box. She used 3 eggs in a cake. How many eggs did she have left?

Peter's Money

1. **Problem** Peter had 4 pennies. He found 1 penny and his mother gave him 2 pennies. How many pennies did Peter have then?

   Explanation Write the numbers under each other. Then do the work like this:

   Begin at the bottom and add up. Think, "2 and 1 are 3, 3 and 4 are 7." Write 7. You can add the numbers faster if you think only "2, 3, 7." Peter had 7 pennies in all.

   4 ●●●●
   1 ●
   2 ●●
   —
   7

2. Jane has 4 yellow pencils, 2 red pencils, and 1 blue pencil. How many pencils has she in all?

3. Jack has 5 story books, 2 animal books, and 3 bird books. How many books has Jack in all?

Add these numbers. Begin at the bottom and add up:

4.	3	2	3	5	2	5	1	4
	6	4	4	1	5	1	6	5
	1	2	3	4	1	2	2	1
5.	6	2	3	5	2	1	8	4
	2	2	1	2	5	7	1	2
	1	5	6	2	3	1	1	3
6.	1	4	5	7	4	1	6	3
	6	4	3	1	3	2	1	2
	3	1	2	2	1	4	2	3

7. Jane wants ice cream. The ice cream costs 10¢ but Jane has only 8¢. How much more does she need? 8¢ and . . .¢ are 10¢. 8 from 10 is . . .

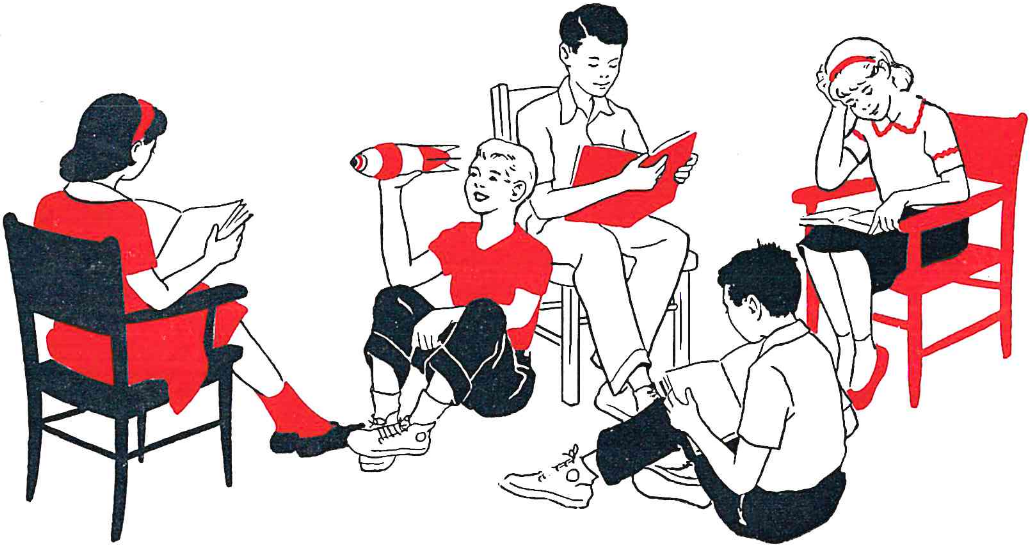
8. Bob needs 3¢ to buy a stick of candy. He has 2¢ now. How many more cents does Bob need? 2¢ and how many cents are 3¢? 2 from 3 is . . .

9. Peggy has 4¢. She wants to buy a doll's hat that costs 8¢. How many more cents does she need? 4¢ and . . .¢ are 8¢. 4 from 8 is . . .

Tell what number should be put in each space:

10. 2 and . . . are 4.	2 from 4 is . . .
11. 2 and . . . are 9.	2 from 9 is . . .
12. 3 and . . . are 7.	3 from 7 is . . .
13. 5 and . . . are 9.	5 from 9 is . . .

To find how many more are needed, you subtract.



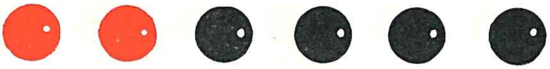
How Many More Are Needed?

1. You see 5 children. Three children have chairs. How many more chairs are needed so that all the children will have chairs? 3 and how many are 5? 3 and . . . are 5. 3 from 5 is . . .
2. Look at the 5 children again. Four of them are reading books. How many more books are needed so that each child will have a book? 4 and how many are 5? 4 and . . . are 5. 4 from 5 is . . .

Tell what number should be put in each space. Use pennies or draw dots to get the answers:

3. 3 pennies and . . . pennies are 9 pennies.
4. 5 pennies and . . . pennies are 10 pennies.
5. 2 apples and . . . apples are 7 apples.
6. 4 apples from 7 apples is . . . apples.
7. 5 books from 8 books is . . . books.

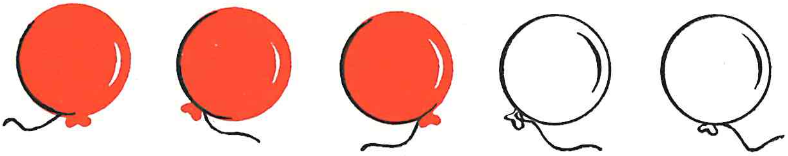
Addition Helps Subtraction



1. How many marbles are red? How many marbles are black? How many are 2 marbles and 4 marbles? Cover up 2 red marbles. How many marbles are left? How many are 2 marbles from 6 marbles? How many are 2 from 6?

2. Look at the marbles again. Cover up 4 black marbles. How many marbles are left? How many are 4 marbles from 6 marbles? How many are 4 from 6?

3. You know that 4 and 2 are 6. This shows you that 2 from 6 is 4 and that 4 from 6 is 2. $4 + 2 = 6$ is an addition fact. $6 - 2 = 4$ and $6 - 4 = 2$ are subtraction facts. The addition facts help you to make the subtraction facts.



4. How many balloons are red? How many balloons are white? How many are 3 balloons and 2 balloons?

5. 3 and 2 are . . ., so 3 from 5 is . . .

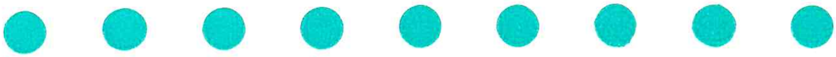
6. 3 and 2 are . . ., so 2 from 5 is . . .

7. On paper draw 9 marbles. Make 5 marbles black. 5 marbles and . . . marbles are 9 marbles. Cover up 5 black marbles. How many marbles are left? How many are 5 from 9? How many are 4 from 9?

8. 5 and 4 are . . ., so 5 from 9 is . . .

9. 5 and 4 are . . ., so 4 from 9 is . . .

Jack Helps Ann



1. Jack asks Ann, "How many are 4 from 9?" Ann does not remember the answer. Jack then asks, "4 and what are 9?" Ann looks at the 9 dots and says, "4 and 5 are 9." Jack says, "Right. 4 and 5 are 9, so 4 from 9 is 5."

$$\begin{array}{r}9\\-4\\\hline\end{array}$$

2. Jack asks Ann, "How many are 6 from 9?" Ann looks at the 9 dots and says, "6 and 3 are 9." Jack says, "Then 6 from 9 is 3."

$$\begin{array}{r}9\\-6\\\hline\end{array}$$

3. How many are 2 from 9? If you forget, look at the 9 dots above and think, "2 and what are 9?" You see that 2 and 7 are 9, so 2 from 9 is 7.

$$\begin{array}{r}9\\-2\\\hline\end{array}$$

4. If you forget a subtraction fact, such as 5 from 9, think like this: "5 and . . . are 9, so 5 from 9 is . . ." Draw dots to help you find the answer to any fact you do not know.

$$\begin{array}{r}9\\-5\\\hline\end{array}$$

5. 6 and . . . are 10, so 6 from 10 is . . .

6. 8 and . . . are 10, so 8 from 10 is . . .

Subtract these numbers. Draw dots if you need help:

7.	8	7	9	6	7	8	5	10
	−6	−4	−1	−3	−3	−3	−2	−7
8.	5	9	7	8	7	9	3	10
	−1	−7	−2	−2	−5	−2	−2	−4
9.	4	6	8	7	9	8	6	10
	−2	−4	−4	−6	−3	−5	−1	−8

Say the answers to a friend. Learn the facts you missed:

1.	4 −3	9 −5	7 −3	3 −1	8 −4	10 −7	10 −2
2.	6 −4	2 −1	5 −2	9 −6	4 −2	10 −5	10 −3
3.	7 −6	6 −2	8 −6	4 −1	5 −4	10 −6	10 −8
4.	9 −4	3 −2	5 −3	6 −3	7 −2	10 −1	10 −4
5.	5 −1	8 −3	7 −5	9 −7	6 −1	10 −9	10 −5
6.	9 −2	7 −4	9 −8	8 −1	9 −3	10 −3	10 −6
7.	6 −5	8 −7	7 −1	8 −2	9 −1	8 −5	10 −7

Here are number stories that use the first three facts above. Tell the answers:

8. Ann bought 4 candies. She ate 3 of them. How many candies did she have left?

9. Dick made 9 paper airplanes. The wind blew 5 of them away. How many airplanes did Dick have left?

10. Mother had 7 eggs in a box. She used 3 eggs in a cake. How many eggs did she have left?

Peter's Money

1. **Problem** Peter had 4 pennies. He found 1 penny and his mother gave him 2 pennies. How many pennies did Peter have then?

   Explanation Write the numbers under each other. Then do the work like this:

   Begin at the bottom and add up. Think, "2 and 1 are 3, 3 and 4 are 7." Write 7. You can add the numbers faster if you think only "2, 3, 7." Peter had 7 pennies in all.

   4 ●●●●
   1 ●
   2 ●●
   7

2. Jane has 4 yellow pencils, 2 red pencils, and 1 blue pencil. How many pencils has she in all?

3. Jack has 5 story books, 2 animal books, and 3 bird books. How many books has Jack in all?

Add these numbers. Begin at the bottom and add up:

4.	3 6 1	2 4 2	3 4 3	5 1 4	2 5 1	5 1 2	1 6 2	4 5 1
5.	6 2 1	2 2 5	3 1 6	5 2 2	2 5 3	1 7 1	8 1 1	4 2 3
6.	1 6 3	4 4 1	5 3 2	7 1 2	4 3 1	1 2 4	6 1 2	3 2 3

The Meaning of Zero

1. The children were playing a guessing game. All the answers were numbers. Bill asked Ann, "How many legs has a cow?" What is the answer?

2. Then it was Ann's turn. She asked Bob, "How many legs has a chicken?" What is the answer?

3. Bob then gave this question to Bill: "How many legs has a fish?" Can you give the right answer?

4. The answer to Bob's question is **none** or **not any.** The number that means **none, not any,** or **nothing** is 0. The name of this number is **zero.**

5. Have you ever used zero when you were playing a game? If you have, tell the children about it.

Number Stories

Here are three number stories. Tell the answers:

6. Betty had 6¢. She found 4¢ in her old coat. Now she has . . .¢.

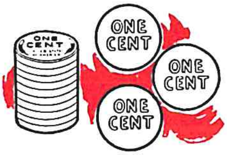
7. Bob had 6¢. He lost 2¢ in the high grass. Now he has . . .¢.

8. Jim had 5¢. His father gave him 5¢. Now Jim has . . .¢.

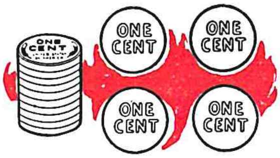
9. Make a number story for each one of the examples below. Ask the other children to tell the answers. Watch the signs so that your stories will be right:

$$\begin{array}{r} 4 \\ +4 \\ \hline \end{array} \qquad \begin{array}{r} 9 \\ -2 \\ \hline \end{array} \qquad \begin{array}{r} 7 \\ -5 \\ \hline \end{array} \qquad \begin{array}{r} 5 \\ +3 \\ \hline \end{array} \qquad \begin{array}{r} 2 \\ +7 \\ \hline \end{array} \qquad \begin{array}{r} 5 \\ -4 \\ \hline \end{array} \qquad \begin{array}{r} 6 \\ +3 \\ \hline \end{array} \qquad \begin{array}{r} 8 \\ -2 \\ \hline \end{array}$$

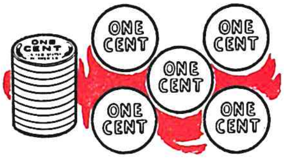
Numbers 11 to 20



Betty



Jack



Ann

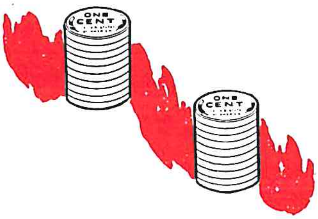
1. Betty has 10 pennies in a pile and 3 more pennies. How many pennies has Betty? How many are 10 and 3?

2. Jack has 10 pennies and 4 more pennies. How many pennies has Jack? How many are 10 and 4?

3. Ann has 10 pennies and 5 more pennies. How many pennies has Ann? How many are 10 and 5?

4. How many are 10 and 1? How many are 10 and 2? How many are 10 and 6? 10 and 7? 10 and 8? 10 and 9?

5. There are 10 pennies in each pile at the right. How many are 10 pennies and 10 pennies? How many are 10 and 10? How many are 2 tens?



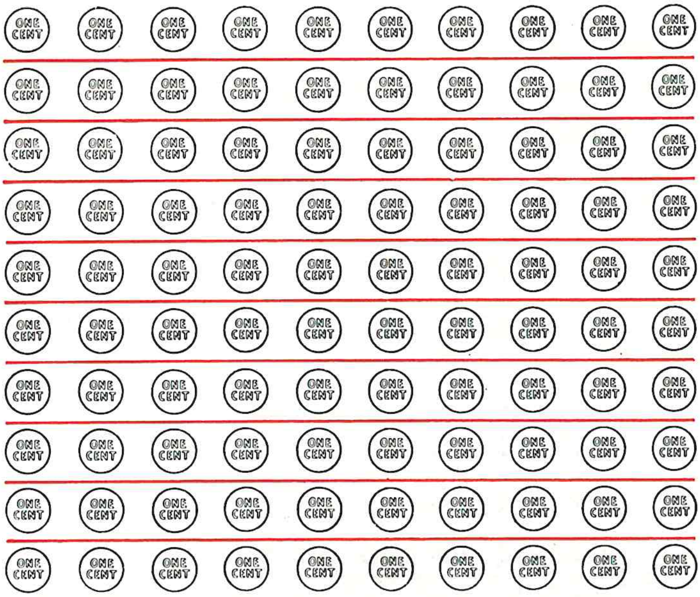
6. Here are the numbers from 11 to 20 with their names. Learn them so you can read them when you see them:

11	eleven
12	twelve
13	thirteen
14	fourteen
15	fifteen
16	sixteen
17	seventeen
18	eighteen
19	nineteen
20	twenty

7. Nineteen means nine and ten. **Teen** means ten.

8. What does fourteen mean? seventeen? fifteen?

How Many Pennies?



1. The children put pennies in 10 rows. They put 10 pennies in each row. The picture shows how the pennies looked. Point to the rows and count the pennies by rows, like this:

10 20 30 40 50 60 70 80 90 100

2. You know that 20 is 2 tens. How many tens make 30? How many tens make 40? 50? 60? 90?

3. You have counted the pennies above by rows. You were counting the pennies by 10's.

4. Here are the number names when you count by 10's:

10	20	30	40	50
ten	twenty	thirty	forty	fifty
60	70	80	90	100
sixty	seventy	eighty	ninety	one hundred

5. Fifty is . . . tens. Eighty is . . . tens.

Numbers to 100

1. Suppose you counted the pennies on page 29 by 1's. You would say the numbers from 1 to 100. Read the numbers below:

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

2. Find 42 above. You see that 42 is 4 tens and 2 more. The 4 in 42 shows the tens, and the 2 shows the ones. 42 is a **two-place** number and means 4 tens and 2 ones. Find 36 above. What does 36 mean?

Tens	Ones
4	2

3. How many are 6 tens and 8 ones? 9 tens and 4 ones?

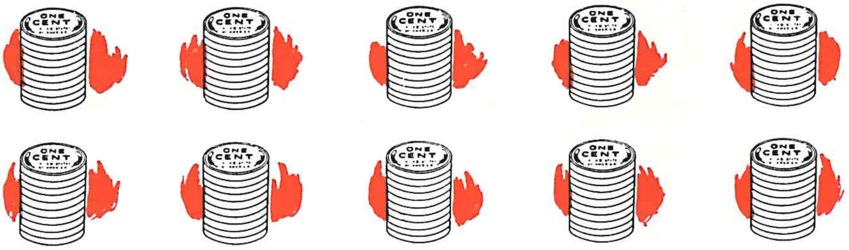
Tell what number goes in each space:

4. 4 tens make . . . 9 tens and 2 ones make . . .

5. 7 tens make . . . 6 tens and 0 ones make . . .

6. 83 means . . . tens and . . . ones.

7. 38 means . . . tens and . . . ones.



1. There are 10 pennies in each pile above. Count the pennies by tens. How many pennies are there in all?

2. The pennies above show **ten tens.** Another name for ten tens is **one hundred.** You see that 10 tens make 1 hundred. The number 100 means 10 tens or 1 hundred, 0 tens, and 0 ones.

Write the number that means

3. 7 tens and 4 ones   1 ten and 8 ones
4. 5 tens and 8 ones   4 tens and 5 ones
5. 2 tens and 6 ones   7 tens and 2 ones
6. 9 tens and 3 ones   10 tens and 0 ones

Write these numbers in figures:

7. twenty-six   fifty-one   seventy-two
8. forty-seven   thirty-eight   eighty-four
9. ninety-three   sixty-five   twenty-nine

10. Write the smallest number you can with the figures 3 and 9. Then use the same figures to write the largest number you can.

11. What is the smallest number that has 2 figures? What is the largest number that has 2 figures?

Adding Money

Bill's Money

Ann's Money

1. Bill saved 2 dimes and 1 penny. Ann saved 2 dimes and 4 pennies. How much money in all had they saved? You see that together they had 4 dimes and 5 pennies. 4 dimes and 5 pennies equal 45¢. So 21¢ + 24¢ = 45¢.

2. Mary saved 15¢ and Susan saved 22¢. How much did they both save? How much is 15¢ + 22¢? Here is a way to find out:

15¢ = 1 dime and 5 pennies
22¢ = 2 dimes and 2 pennies
3 dimes and 7 pennies, or 37¢

So 15¢ + 22¢ = 37¢. You can also write 15¢ over 22¢, as shown at the right. You write the sum 37¢ below the line.

$$\begin{array}{r} 15¢ \\ \underline{22¢} \\ 37¢ \end{array}$$

Use dimes and pennies of play money to find the answers. Then try to find the answers without using play money:

3.	26¢ +33¢	34¢ +54¢	53¢ +12¢	41¢ +28¢	13¢ +46¢	64¢ +25¢
4.	45¢ +53¢	73¢ +14¢	32¢ +66¢	25¢ +64¢	17¢ +52¢	84¢ +13¢

More Practice. See ① on page 313.

Adding Larger Numbers

1. **Problem** Susan picked 24 yellow flowers and 35 blue flowers. How many flowers did Susan pick?

Explanation To find the answer, you add 24 and 35. Write 35 under 24 and draw a line.

24 = 2 tens and 4 ones
35 = 3 tens and 5 ones
5 tens and 9 ones, or 59

Tens	Ones
2	4
3	5
5	9

When you add, begin at the bottom and add up. Here is the way to think to find the answer:

5 ones + 4 ones = 9 ones. Write 9 in ones place.
3 tens + 2 tens = 5 tens. Write 5 in tens place.

The answer is 59. Susan picked 59 flowers.

Add these numbers:

2.	32	21	34	45	52	41	16	83
	13	46	62	42	46	15	13	14
3.	31	46	35	42	67	14	33	21
	37	53	43	23	22	62	41	22
4.	21	27	52	51	32	24	64	35
	41	12	45	27	62	63	15	51

5. **Problem** Find the sum of 42 and 37.

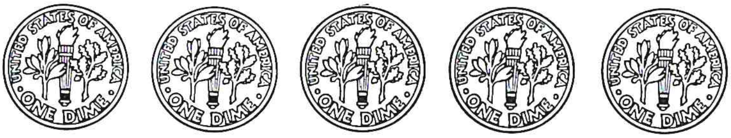
Explanation You can do the work quickly, like this: Think "7, 9." Write 9 in ones place. Think "3, 7." Write 7 in tens place. The answer is 79.

Tens	Ones
4	2
3	7
7	9

More Practice. See ② on page 313.

Counting Dimes and Nickels

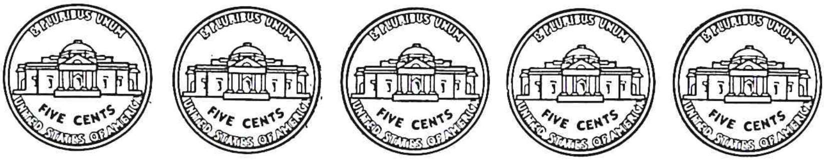
1. Count these dimes by 10's. They make . . .¢.



2. Use play money to count the number of cents in 6 dimes. Then use play money to count the number of cents in 8 dimes.

3. Ann has 7 dimes. How many cents has she?

4. Count these nickels by 5's. They make . . .¢.



5. Tom has 7 nickels. How much money has he? Draw 7 nickels on paper. Write 5¢ on each one. Then count Tom's nickels by 5's to see how many cents they make.

Tell what number goes in each space:

6. 2 nickels make . . . cents. 3 dimes make . . .¢.

7. 6 nickels make . . . cents. 9 dimes make . . .¢.

8. 1 dime and 1 nickel make . . . cents.

9. 1 dime and 4 cents make . . . cents.

10. 1 nickel and 5 cents make . . . cents.

11. Bob had a nickel and a penny. How much money did Bob have all together?

12. How many cents do 5 nickels make?

Can You Say the Answers?

1. How many cents are there in 4 nickels?
2. How many cents are there in 3 dimes?
3. 62 means . . . tens and . . . ones.
4. 26 means . . . tens and . . . ones.
5. 49 means . . . tens and . . . ones.
6. 94 means . . . tens and . . . ones.
7. 70 means . . . tens and . . . ones.

Tell the answers. Watch the signs:

8. $\begin{array}{r}5\\-2\\\hline\end{array}$ $\begin{array}{r}2\\+8\\\hline\end{array}$ $\begin{array}{r}8\\-4\\\hline\end{array}$ $\begin{array}{r}6\\+1\\\hline\end{array}$ $\begin{array}{r}10\\-6\\\hline\end{array}$ $\begin{array}{r}9\\-2\\\hline\end{array}$ $\begin{array}{r}5\\+3\\\hline\end{array}$

9. $\begin{array}{r}4\\+5\\\hline\end{array}$ $\begin{array}{r}7\\-3\\\hline\end{array}$ $\begin{array}{r}2\\+6\\\hline\end{array}$ $\begin{array}{r}3\\+3\\\hline\end{array}$ $\begin{array}{r}10\\-3\\\hline\end{array}$ $\begin{array}{r}6\\+3\\\hline\end{array}$ $\begin{array}{r}4\\-1\\\hline\end{array}$

10. $5 + 5$ $7 - 5$ $1 + 9$ $6 + 4$ $10 - 7$

11. $9 - 4$ $2 + 7$ $9 - 5$ $5 + 4$ $10 - 5$

12. $8 - 3$ $3 + 5$ $8 - 5$ $6 + 2$ $10 - 4$

13. $1 + 7$ $6 - 4$ $4 + 4$ $5 + 2$ $10 - 8$

14. $9 - 6$ $3 + 7$ $8 - 6$ $4 + 3$ $10 - 2$

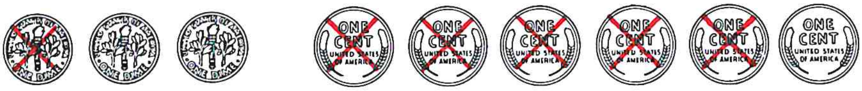
15. Jim had 5¢ in his bank. Today he put in 4 pennies. How many cents has Jim in his bank now?

16. Mary had a nickel in her bank. Today she put another nickel in it. How many cents has Mary in her bank now?

Subtracting Money

1. Jane had 36¢. She had 3 dimes and 6 pennies. She bought a balloon for 15¢. She gave the man 1 dime and 5 pennies. How much did Jane have left?

Here are Jane's dimes and pennies:



The lines through 1 dime and 5 pennies show that those were spent. The other coins show how much money Jane had left. How much did she have left? How much is 15¢ from 36¢?

2. You do not need a picture to help you subtract. You can write the work like this:

36¢ = 3 dimes and 6 cents
15¢ = 1 dime and 5 cents
2 dimes and 1 cent, or 21¢

When you do the work above, think, "5 cents from 6 cents, 1 cent." Write 1 cent. Then think, "1 dime from 3 dimes, 2 dimes." Write 2 dimes.

Use dimes and pennies of play money to find the answers. Then try to find the answers without using play money:

3.	35¢	48¢	54¢	99¢	86¢	75¢
	−12¢	−25¢	−31¢	−75¢	−32¢	−64¢
4.	79¢	87¢	98¢	64¢	55¢	89¢
	−36¢	−75¢	−54¢	−33¢	−14¢	−24¢

More Practice. See ③ on page 313.

1. **Problem** Jack got 25 eggs from his hens. He sold 12 eggs. How many eggs did Jack have left?

Explanation To find how many are left, you subtract 12 from 25. Write 12 under 25 and draw a line.

25 = 2 tens and 5 ones
12 = 1 ten and 2 ones
1 ten and 3 ones, or 13

Tens	Ones
2	5
1	2
1	3

To find the answer, think, "2 ones from 5 ones, 3 ones." Write 3 in ones place. Think, "1 ten from 2 tens, 1 ten." Write 1 in tens place. The answer is 13. Jack had 13 eggs left.

2. **Problem** Subtract 35 from 69.

Explanation You can do the work quickly, like this: Think, "5 from 9, 4." Write 4 in ones place. Think, "3 from 6, 3." Write 3 in tens place. The answer is 34.

Tens	Ones
6	9
3	5
3	4

Subtract these numbers:

3.	56	73	98	56	89	47	75	99
	14	52	67	42	26	35	21	24
4.	38	97	75	48	79	62	89	73
	13	13	44	24	37	31	58	61
5.	85	94	68	97	82	69	56	36
	63	81	55	52	11	22	33	25

More Practice. See ④ on page 314.

To the Teacher. See page 328 for the additive method of subtraction.

Addition and Subtraction Review

1. Jane earned 75¢ by wheeling the baby after school. Jane wants 98¢ for a new game. How much more does she need?

2. Joe had 12 chickens. Today he bought 15 more chickens. How many chickens has Joe now?

3. Susan had 25 tickets to sell for a school play. She sold 13 of them today. How many tickets has Susan left to sell?

4. Billy wants to buy a game for 59¢. He earned 35¢ today. How many more cents does he need?

Add these numbers:

5.	14	44	76	23	23	34	65
	42	34	21	64	36	11	34
6.	21	51	35	42	61	21	33
	78	23	23	54	21	52	35

Subtract these numbers:

7.	79	57	96	89	65	84	79
	22	45	73	66	42	73	63
8.	89	26	97	58	79	87	98
	41	15	41	35	48	33	52
9.	64	38	95	76	88	53	56
	22	21	34	54	56	11	21

Chapter Review

Say the answers. Watch the signs:

1. $\begin{array}{r} 7 \\ +3 \\ \hline \end{array}$ $\begin{array}{r} 2 \\ +6 \\ \hline \end{array}$ $\begin{array}{r} 9 \\ -5 \\ \hline \end{array}$ $\begin{array}{r} 3 \\ +6 \\ \hline \end{array}$ $\begin{array}{r} 10 \\ -4 \\ \hline \end{array}$ $\begin{array}{r} 10 \\ -7 \\ \hline \end{array}$ $\begin{array}{r} 4 \\ +5 \\ \hline \end{array}$

2. $\begin{array}{r} 51 \\ +35 \\ \hline \end{array}$ $\begin{array}{r} 24 \\ +52 \\ \hline \end{array}$ $\begin{array}{r} 58 \\ +41 \\ \hline \end{array}$ $\begin{array}{r} 56 \\ +22 \\ \hline \end{array}$ $\begin{array}{r} 34 \\ +34 \\ \hline \end{array}$ $\begin{array}{r} 64 \\ +31 \\ \hline \end{array}$ $\begin{array}{r} 23 \\ +15 \\ \hline \end{array}$

3. $\begin{array}{r} 95 \\ -44 \\ \hline \end{array}$ $\begin{array}{r} 97 \\ -64 \\ \hline \end{array}$ $\begin{array}{r} 27 \\ -13 \\ \hline \end{array}$ $\begin{array}{r} 56 \\ -32 \\ \hline \end{array}$ $\begin{array}{r} 68 \\ -53 \\ \hline \end{array}$ $\begin{array}{r} 74 \\ -62 \\ \hline \end{array}$ $\begin{array}{r} 88 \\ -46 \\ \hline \end{array}$

4. $\begin{array}{r} 52 \\ +14 \\ \hline \end{array}$ $\begin{array}{r} 69 \\ -43 \\ \hline \end{array}$ $\begin{array}{r} 47 \\ +52 \\ \hline \end{array}$ $\begin{array}{r} 33 \\ +64 \\ \hline \end{array}$ $\begin{array}{r} 78 \\ -52 \\ \hline \end{array}$ $\begin{array}{r} 62 \\ +16 \\ \hline \end{array}$ $\begin{array}{r} 95 \\ -22 \\ \hline \end{array}$

5. How many cents make 1 nickel?

6. How many cents make 1 dime?

7. How many cents do 9 nickels make?

8. How many cents do 4 dimes make?

9. Which is the largest number? 18 36 29

10. Which is the smallest number? 45 54 19

11. 4 tens and 6 ones make what number?

12. 6 tens and 4 ones make what number?

13. What does the 7 in 47 mean? What does the 7 in 74 mean? What does the 0 in 70 mean?

14. Count by 1's from 50 to 65; from 73 to 85.

15. Count by 10's from 30 to 80; from 20 to 90.

16. Count by 10's from 25 to 85; from 32 to 92.

17. Count by 5's from 5 to 50; from 5 to 100.

18. Count by 5's from 8 to 53; from 17 to 47.

A Problem Test

1. At the store Dick spent 5¢, 4¢, and 1¢. How much money in all did he spend?
2. In her garden Jane saw 3 blue flowers, 5 white flowers, and 2 yellow flowers. How many flowers did Jane see all together?
3. Jane had 10 flowers in her garden. She picked 4 of them. How many flowers were left?
4. There are 15 boys and 14 girls in Peter's room at school. How many children are in that room?
5. Jack wants to buy a new story book for 98¢. He has 64¢ now. How much more money does Jack need to buy the book?
6. Susan spent 8¢ to ride on the bus. She also spent 2¢ for a stick of candy. How much money did Susan spend all together?
7. Bill has 11 brown hens and 14 white hens. How many hens has Bill in all?
8. A man in the park had 9 balloons to sell. The children bought 6 of them. How many balloons did the man have left?
9. Tom bought 4 white rabbits and 2 brown rabbits. How many rabbits did Tom buy?
10. Mary saved 75¢. Then she spent 22¢ for ribbon. How much money did Mary have left?

This is a test to see how well you can do problems. Look your work over before you leave it. Try to get every problem right. Each one right counts 10.

Chapter 2

A Picnic in the Park

1. The girls made sandwiches for a picnic. They made 6 brown bread sandwiches and 6 white bread sandwiches. How many sandwiches did they make? How many are 6 sandwiches and 6 sandwiches? How many are 6 and 6?

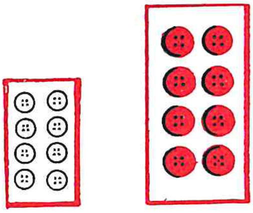
$$\begin{array}{r}6\\+6\\\hline 12\end{array}$$

2. Each child spent 7¢ to ride to the picnic on a bus. Each one paid 7¢ to ride back. How many cents did each child spend? How many are 7¢ and 7¢? How many are 7 and 7?

$$\begin{array}{r}7\\+7\\\hline 14\end{array}$$

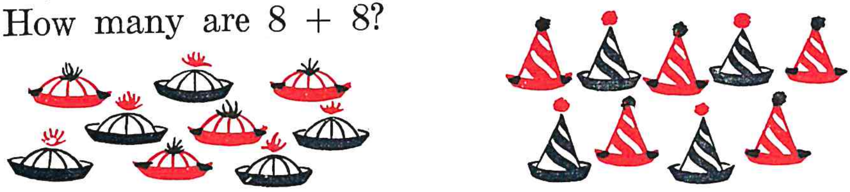
3. $6 + 6 =$ $\quad 7 + 7 =$ $\quad 6 + 6 =$ $\quad 7 + 7 =$

More Addition Facts



1. Ann bought buttons for her dress and coat. She got 8 small buttons and 8 large buttons. How many buttons did she buy? How many are 8 buttons and 8 buttons? How many are 8 + 8?

$$\begin{array}{r} 8 \\ +8 \\ \hline 16 \end{array}$$



2. For Jack's birthday party his mother bought paper hats. She bought 9 hats for the girls and 9 hats for the boys. How many paper hats did she buy? How many are 9 hats and 9 hats? How many are 9 + 9?

$$\begin{array}{r} 9 \\ +9 \\ \hline 18 \end{array}$$

3. How many are 8 stars and 8 stars?
4. How many are 9 dots and 9 dots?
5. How many are 7 eggs and 7 eggs?
6. Numbers like 7 and 7 are called **doubles** because both numbers are the same. Name as many doubles as you can. Also tell their answers. The doubles will help you to learn other addition facts.

Add these numbers:

7.	6	9	5	7	4	8	2	3
	6	9	5	7	4	8	2	3

8. 9 + 9 = 8 + 8 = 6 + 6 = 7 + 7 =

9. 5 + 5 = 3 + 3 = 4 + 4 = 1 + 1 =

4 New Subtraction Facts

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

1. You see 12 stars in a row. Take away 6 stars. Put paper over them. How many stars are left?
6 and 6 are 12, so 6 from 12 is . . .

$$\begin{array}{r}12\\-6\\\hline 6\end{array}$$

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

2. You see 14 circles in a row. Take away 7 circles. Put paper over them. How many circles are left?
7 and 7 are . . ., so 7 from 14 is . . .

$$\begin{array}{r}14\\-7\\\hline 7\end{array}$$

3. On paper draw 16 dots. Take away 8 dots. How many dots are left?
8 and 8 are . . ., so 8 from 16 is . . .

$$\begin{array}{r}16\\-8\\\hline 8\end{array}$$

4. On paper draw 18 dots. Take away 9 dots. How many dots are left?
9 and 9 are . . ., so 9 from 18 is . . .

$$\begin{array}{r}18\\-9\\\hline 9\end{array}$$

5. 7 from 14 is . . . 4 from 8 is . . .

6. 6 from 12 is . . . 2 from 4 is . . .

7. 9 from 18 is . . . 1 from 2 is . . .

8. 5 from 10 is . . . 3 from 6 is . . .

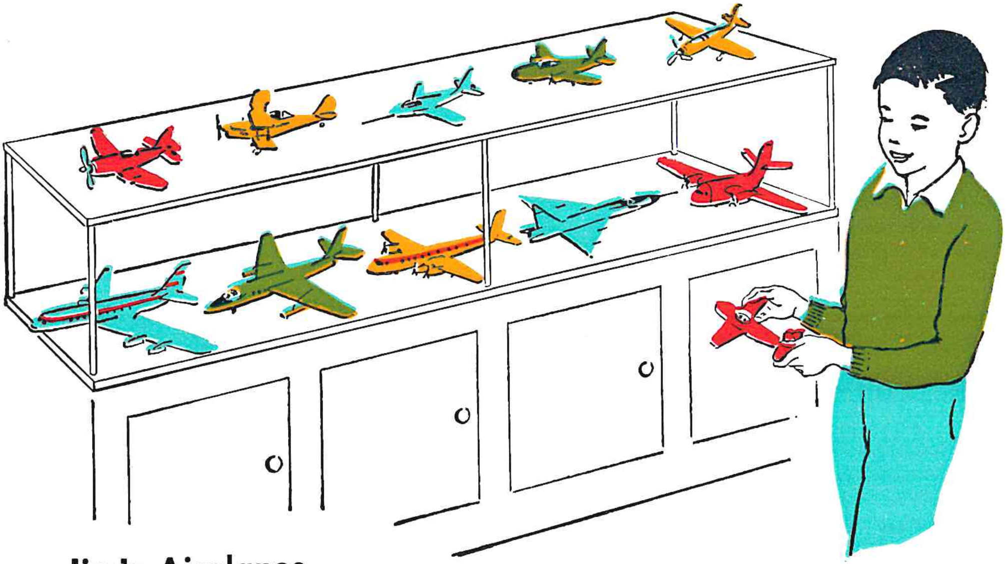
9. 8 from 16 is . . . 9 from 18 is . . .

10. 7 from 14 is . . . 8 from 16 is . . .

Subtract these numbers:

11.
$$\begin{array}{r}12\\-6\\\hline\end{array}\quad\begin{array}{r}16\\-8\\\hline\end{array}\quad\begin{array}{r}14\\-7\\\hline\end{array}\quad\begin{array}{r}10\\-5\\\hline\end{array}\quad\begin{array}{r}18\\-9\\\hline\end{array}\quad\begin{array}{r}14\\-7\\\hline\end{array}\quad\begin{array}{r}16\\-8\\\hline\end{array}\quad\begin{array}{r}8\\-4\\\hline\end{array}$$

12.
$$\begin{array}{r}10\\-5\\\hline\end{array}\quad\begin{array}{r}12\\-6\\\hline\end{array}\quad\begin{array}{r}16\\-8\\\hline\end{array}\quad\begin{array}{r}18\\-9\\\hline\end{array}\quad\begin{array}{r}12\\-6\\\hline\end{array}\quad\begin{array}{r}18\\-9\\\hline\end{array}\quad\begin{array}{r}14\\-7\\\hline\end{array}\quad\begin{array}{r}6\\-3\\\hline\end{array}$$

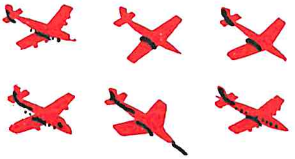


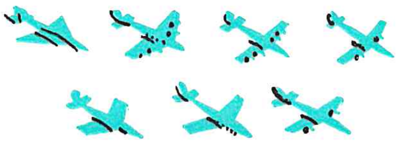
Jim's Airplanes

1. Jim likes airplanes better than any other toys. Yesterday he had 5 large planes and 5 small planes. Today he bought another small plane. How many airplanes has Jim now?

5 planes and 5 planes are . . . planes. So 5 planes and 6 planes are . . . planes. 5 and 5 are . . ., so 5 and 6 are 1 more, or . . . 5 and 6 are . . . How many are 6 and 5?

$$\begin{array}{r} 5 \\ +6 \\ \hline 11 \end{array} \qquad \begin{array}{r} 6 \\ +5 \\ \hline 11 \end{array}$$





2. 6 planes and 7 planes are how many planes? Think, "6 planes and 6 planes are . . . planes. So 6 planes and 7 planes are . . . planes." How many are 6 and 7? How many are 7 and 6?

$$\begin{array}{r} 6 \\ +7 \\ \hline 13 \end{array} \qquad \begin{array}{r} 7 \\ +6 \\ \hline 13 \end{array}$$

3. 7 planes and 7 planes are . . . planes. 7 planes and 8 planes are 1 more than 7 planes and 7 planes. So 7 planes and 8 planes are . . . planes. How many are 7 + 8? How many are 8 + 7?

$\begin{array}{r} 7 \\ +8 \\ \hline 15 \end{array} \qquad \begin{array}{r} 8 \\ +7 \\ \hline 15 \end{array}$

4. 8 planes and 8 planes are . . . planes. 8 planes and 9 planes are 1 more than 8 planes and 8 planes. So 8 planes and 9 planes are . . . planes. How many are 8 + 9? How many are 9 + 8?

$\begin{array}{r} 8 \\ +9 \\ \hline 17 \end{array} \qquad \begin{array}{r} 9 \\ +8 \\ \hline 17 \end{array}$

5. 6 and 6 are . . ., so 6 and 7 are . . . How many are 6 + 7? How many are 7 + 6?

6. 7 and 7 are . . ., so 7 and 8 are . . . How many are 7 + 8? How many are 8 + 7?

7. 8 and 8 are . . ., so 8 and 9 are . . . How many are 8 + 9? How many are 9 + 8?

8. 8 and 8 help you to add 8 and 9. 8 and 8 are **doubles.** 8 and 9 are called **near doubles** because 9 is only 1 more than 8. The sum of 8 and 9 is 1 more than the sum of 8 and 8. The **doubles** help you to add the numbers that are **near doubles.**

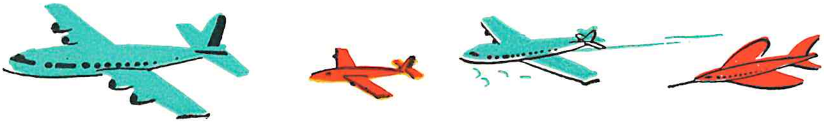
$\begin{array}{r} 8 \\ +8 \\ \hline \end{array} \qquad \begin{array}{r} 8 \\ +9 \\ \hline \end{array}$

Find these sums:

9. 6 + 5 = . . .   7 + 8 = . . .   9 + 8 = . . .

10. 7 + 6 = . . .   5 + 6 = . . .   6 + 7 = . . .

11. 8 + 9 = . . .   5 + 4 = . . .   8 + 7 = . . .



Practicing New Facts

Tell what number should be put in each space:

1. 6 and 6 are . . ., so 6 and 7 are . . .
2. 8 and 8 are . . ., so 8 and 9 are . . .
3. 7 and 7 are . . ., so 7 and 8 are . . .
4. 5 and 5 are . . ., so 5 and 6 are . . .
5. 3 and 3 are . . ., so 3 and 4 are . . .
6. 6 and 6 are . . ., so 7 and 6 are . . .
7. 2 and 2 are . . ., so 3 and 2 are . . .
8. 8 and 8 are . . ., so 9 and 8 are . . .
9. There are 6 children playing a game and 7 children on roller skates. How many children are there all together? How many are 6 and 7?
10. Betty picked 8 yellow flowers and 9 blue flowers. How many flowers did Betty pick?
11. 7 children and 8 children are . . . children.
12. 8 children and 7 children are . . . children.
13. 6 children and 5 children are . . . children.

Add. Tell which numbers are near doubles:

14.	6	8	4	7	3	6	7	4
	5	9	5	7	4	5	6	3
15.	3	6	8	8	5	5	9	7
	3	7	7	9	6	4	9	8
16.	8	6	9	4	3	8	6	5
	7	6	8	4	2	8	7	5

Cutting Out Pictures

On your paper draw dots to help you find the answers to these problems:

1. The children are cutting out pictures for the books they are making. Betty has cut out 8 pictures of flowers. She wants to have 15 pictures of flowers. How many more pictures does Betty need to cut out?
2. Bill has cut out 7 pictures of airplanes. He wants 13 pictures of airplanes for his book. How many more pictures of airplanes does Bill need?
3. Dick has cut out 9 pictures of boats. He hopes to have 17 boat pictures in all. How many more boat pictures does Dick need to cut out?
4. Susan has cut out 6 pictures of birds. She thinks she needs 11 pictures in all. How many more bird pictures does Susan need?

Tell what number should be put in each space:

5. 8 and . . . are 17. 5 and . . . are 11.
6. 6 and . . . are 13. 7 and . . . are 15.
7. 6 and . . . are 11. 7 and . . . are 14.
8. 7 and . . . are 13. 9 and . . . are 17.
9. 7 and . . . are 15. 6 and . . . are 12.
10. 9 and . . . are 17. 8 and . . . are 15.
11. 6 and . . . are 11. 9 and . . . are 18.
12. 5 and . . . are 10. 8 and . . . are 16.
13. 8 and . . . are 15. 6 and . . . are 13.

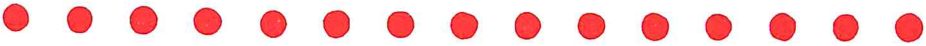
More Subtraction Facts

1. Here are 11 bells. Cover 5 bells. How many bells are left? 5 bells and how many bells are 11 bells? 5 and . . . are 11. 5 and 6 are 11, so 5 from 11 is 6. 6 and . . . are 11, so 6 from 11 is 5. How many are 5 from 11? How many are 6 from 11?

$\begin{array}{r}11\\-5\\\hline 6\end{array}$ $\begin{array}{r}11\\-6\\\hline 5\end{array}$

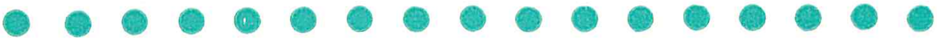
2. Here are 13 stars. Cover 6 stars. How many stars are left? 6 stars and how many stars are 13 stars? 6 and . . . are 13. 6 and 7 are 13, so 6 from 13 is 7. 7 and . . . are 13, so 7 from 13 is 6. How many are 6 from 13? How many are 7 from 13?

$\begin{array}{r}13\\-6\\\hline 7\end{array}$ $\begin{array}{r}13\\-7\\\hline 6\end{array}$



3. Here are 15 dots. Cover 7 dots. How many dots are left? 7 dots and how many dots are 15 dots? 7 and . . . are 15. 7 and 8 are 15, so 7 from 15 is 8. 8 and . . . are 15, so 8 from 15 is 7. How many are 7 from 15? How many are 8 from 15?

$\begin{array}{r}15\\-7\\\hline 8\end{array}$ $\begin{array}{r}15\\-8\\\hline 7\end{array}$



4. Here are 17 dots. Cover 8 dots. How many dots are left? 8 dots and how many dots are 17 dots? 8 and . . . are 17. 8 and 9 are 17, so 8 from 17 is 9. 9 and . . . are 17, so 9 from 17 is 8. How many are 8 from 17? How many are 9 from 17?

$$\begin{array}{r}17\\-8\\\hline 9\end{array}\qquad\begin{array}{r}17\\-9\\\hline 8\end{array}$$

Tell the answers. Look at the pictures if you need help:

5. 7 and . . . are 13, so 7 from 13 is . . .

6. 5 and . . . are 11, so 5 from 11 is . . .

7. 8 and . . . are 17, so 8 from 17 is . . .

8. 6 and . . . are 13, so 6 from 13 is . . .

9. 9 and . . . are 17, so 9 from 17 is . . .

10. 8 and . . . are 15, so 8 from 15 is . . .

11. 6 and . . . are 11, so 6 from 11 is . . .

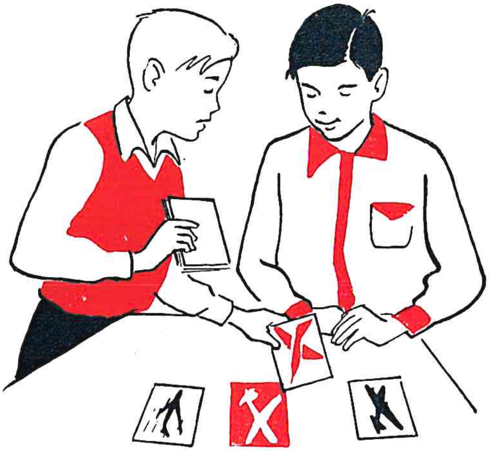
12. 7 and . . . are 15, so 7 from 15 is . . .

13. 9 and . . . are 18, so 9 from 18 is . . .

Subtract these numbers:

14.	$\begin{array}{r}15\\-7\\\hline\end{array}$	$\begin{array}{r}11\\-6\\\hline\end{array}$	$\begin{array}{r}14\\-7\\\hline\end{array}$	$\begin{array}{r}17\\-9\\\hline\end{array}$	$\begin{array}{r}13\\-6\\\hline\end{array}$	$\begin{array}{r}12\\-6\\\hline\end{array}$	$\begin{array}{r}15\\-8\\\hline\end{array}$	$\begin{array}{r}17\\-8\\\hline\end{array}$
15.	$\begin{array}{r}11\\-5\\\hline\end{array}$	$\begin{array}{r}13\\-6\\\hline\end{array}$	$\begin{array}{r}16\\-8\\\hline\end{array}$	$\begin{array}{r}15\\-8\\\hline\end{array}$	$\begin{array}{r}11\\-6\\\hline\end{array}$	$\begin{array}{r}17\\-9\\\hline\end{array}$	$\begin{array}{r}13\\-7\\\hline\end{array}$	$\begin{array}{r}15\\-7\\\hline\end{array}$
16.	$\begin{array}{r}18\\-9\\\hline\end{array}$	$\begin{array}{r}13\\-7\\\hline\end{array}$	$\begin{array}{r}17\\-8\\\hline\end{array}$	$\begin{array}{r}11\\-5\\\hline\end{array}$	$\begin{array}{r}14\\-7\\\hline\end{array}$	$\begin{array}{r}16\\-8\\\hline\end{array}$	$\begin{array}{r}18\\-9\\\hline\end{array}$	$\begin{array}{r}13\\-6\\\hline\end{array}$

Problems and Practice



1. Jack saved 15 cards with pictures of airplanes on them. He is giving Bill 7 of these cards. How many cards will Jack have left? How many are 7 from 15?
2. Betty had saved 16¢. She bought ice cream for 8¢. How much money did Betty have left?
3. Dick had 13¢. He spent 6¢ for candy. How many cents did Dick have left?
4. Alice picked 6 flowers. She gave 3 flowers to her teacher. How many flowers did Alice have left?
5. Mother made 18 cookies. The family ate 9 cookies today. How many cookies are left?

Subtract these numbers:

6. $\begin{array}{r} 8 \\ -3 \\ \hline \end{array}$ $\begin{array}{r} 7 \\ -4 \\ \hline \end{array}$ $\begin{array}{r} 6 \\ -2 \\ \hline \end{array}$ $\begin{array}{r} 10 \\ -5 \\ \hline \end{array}$ $\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$ $\begin{array}{r} 12 \\ -6 \\ \hline \end{array}$ $\begin{array}{r} 13 \\ -7 \\ \hline \end{array}$ $\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$

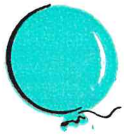
7. $\begin{array}{r} 8 \\ -6 \\ \hline \end{array}$ $\begin{array}{r} 9 \\ -4 \\ \hline \end{array}$ $\begin{array}{r} 5 \\ -3 \\ \hline \end{array}$ $\begin{array}{r} 14 \\ -7 \\ \hline \end{array}$ $\begin{array}{r} 15 \\ -8 \\ \hline \end{array}$ $\begin{array}{r} 10 \\ -8 \\ \hline \end{array}$ $\begin{array}{r} 16 \\ -8 \\ \hline \end{array}$ $\begin{array}{r} 11 \\ -5 \\ \hline \end{array}$

8. $\begin{array}{r} 4 \\ -2 \\ \hline \end{array}$ $\begin{array}{r} 7 \\ -5 \\ \hline \end{array}$ $\begin{array}{r} 8 \\ -4 \\ \hline \end{array}$ $\begin{array}{r} 10 \\ -3 \\ \hline \end{array}$ $\begin{array}{r} 11 \\ -5 \\ \hline \end{array}$ $\begin{array}{r} 17 \\ -8 \\ \hline \end{array}$ $\begin{array}{r} 13 \\ -6 \\ \hline \end{array}$ $\begin{array}{r} 15 \\ -8 \\ \hline \end{array}$

9. $\begin{array}{r} 7 \\ -2 \\ \hline \end{array}$ $\begin{array}{r} 9 \\ -6 \\ \hline \end{array}$ $\begin{array}{r} 5 \\ -4 \\ \hline \end{array}$ $\begin{array}{r} 15 \\ -7 \\ \hline \end{array}$ $\begin{array}{r} 11 \\ -6 \\ \hline \end{array}$ $\begin{array}{r} 13 \\ -7 \\ \hline \end{array}$ $\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$ $\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$

1. Ann had 16¢. She paid 8¢ to ride on a bus. How many cents did she have left?
2. Tom saved 62¢. Today he earned 25¢ more. How much money has Tom now?
3. Mother is making rolls. She has baked one pan of 9 rolls. She has 9 more rolls ready to bake. How many rolls will Mother have all together?
4. Dick would like to buy a hammer for 75¢. He has 53¢. How many more cents does he need?
5. Alice paid 8¢ for one paper doll and 9¢ for another. How much did Alice spend for both paper dolls?
6. Joe's book about airplanes has 96 pages. He has read 25 pages. How many more has he to read?
7. At the store Susan spent 3¢ for a pencil, 5¢ for paper, and 2¢ for a stick of candy. How many cents in all did Susan spend?
8. Jim has saved 7 box tops. He must have 15 box tops to get a cowboy hat. How many more does he need?
9. This morning Mary read 12 pages in her new story book. She has just read 14 more pages in that book. How many pages has Mary read all together?
10. Bill earned 75¢ today. He spent 33¢ to go to the movies. How much does he have left?
11. Betty has 4 black pencils, 1 blue pencil, and 3 red pencils. How many pencils has she all together?
12. Peter had 18¢. He spent 9¢ for a ball of string. How many cents did Peter have left?

Finding How Much More or Less


Balloon, 15¢

Airplane, 39¢

Ball, 17¢

Boat, 28¢

1. The balloon costs 15¢. The airplane costs 39¢. Which of these two toys costs more? How much more does the airplane cost?
2. Did you add or subtract to find how much more the airplane costs than the balloon?
3. Jack wants to buy the airplane or the boat. How much more does the airplane cost than the boat? How much less does the boat cost than the airplane?
4. How much less does the ball cost than the airplane?
5. How much less does the ball cost than the boat?
6. How much more is 10¢ than 6¢?
7. How much less is 35¢ than 68¢?
8. How much more is 16¢ than 8¢?
9. Betty saved 75¢. Ann saved 43¢. How much less did Ann save than Betty?
10. Jack paid 85¢ for a game. Bill paid 62¢ for one. How much less did Bill pay for his game than Jack?

Subtract to find how much more or how much less one number is than another.

On the Farm

1. Miss Brown took the children to a small farm. They counted the animals on the farm. They saw 9 cows and 7 sheep in the fields. How many more cows than sheep did they see? How many fewer sheep than cows were there?
2. There were 5 white sheep and 2 black sheep. How many more white sheep than black sheep were there on the farm?
3. The children saw 4 horses in the barn and 1 horse in a field. How many horses did they see? How many fewer horses than cows were there on the farm? Remember that there were 9 cows in all.
4. On the farm the children played with 8 kittens and 3 puppies. How many fewer puppies than kittens were there?
5. How many fewer than 9 dogs are 6 dogs?

Subtract to find how many more or how many fewer there are in one group than in another.

Checking Column Addition

1. **Problem** Dick has 2 kittens, 1 dog, and 6 little fish. How many pets has Dick?

   Explanation Write the numbers in a column. To add the column, begin at the bottom and add up. Think "6, 7, 9."

   To be sure that 9 is the right answer, add the numbers again. Begin at the top and add down. Think "2, 3, 9." You get 9 both times, so you can call the work right. This means that you have **checked** the work.

$$\begin{array}{r}2\\1\\\underline{6}\\9\end{array}$$

2. Mary's pets are 4 kittens, 2 dogs, and 3 turtles. How many pets has Mary?

3. Bill's pets are 1 horse, 2 sheep, and 5 rabbits. How many pets has Bill?

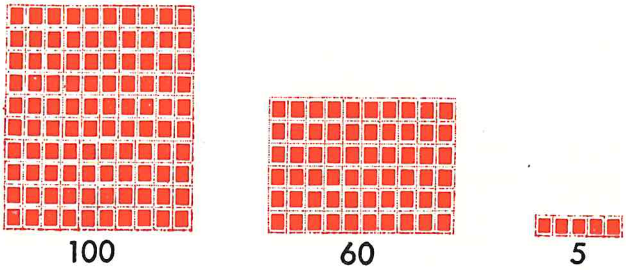
4. Ann has 2 yellow birds, 1 green bird, and 4 brown birds. How many birds has Ann?

Add these numbers. Check your work:

5.	5	3	2	4	1	3	3	3
	2	1	6	1	2	5	1	2
	3	2	2	5	5	2	6	2
6.	3	3	5	6	4	2	1	3
	1	2	3	3	1	5	4	1
	3	5	2	1	2	2	5	4
7.	4	1	5	1	5	4	4	1
	2	2	4	2	1	1	2	5
	2	3	1	6	2	4	1	3

More Practice. See ⑤ on page 314.

Three-Place Numbers



1. Bob bought 165 stamps for his father. He got one sheet of 100 stamps. There were 10 rows of stamps with 10 stamps in each row. Count the stamps in the large sheet by 10's. 10 tens = 1 hundred.

2. Bob also got 6 rows of stamps with 10 stamps in each row. Count the stamps in 6 rows by 10's.

3. The other 5 stamps made only part of a row. All together Bob had 100 stamps plus 60 stamps plus 5 stamps, or 165 stamps.

4. The number 165 has three places. You have learned that 65 means 6 tens and 5 ones. In 165 there is a third place at the left of tens place. This is **hundreds** place. 165 means 1 hundred, 6 tens, 5 ones. 165 is a **three-place** number. You read it **one hundred sixty-five.**

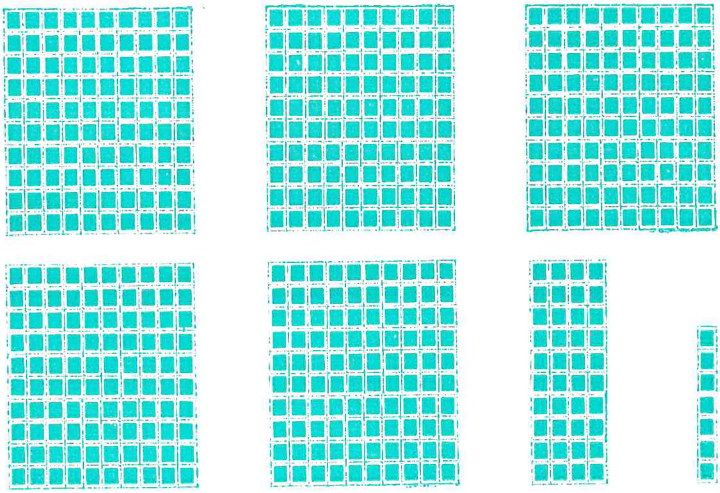
Hundreds	Tens	Ones
1	6	5

5. Look at the picture of the stamps again. You see that there are 16 rows with 10 stamps in each row. This means there are 16 tens. So 165 can also mean 16 tens and 5 ones.

6. The number 138 means 1 hundred, 3 tens, 8 ones. It can also mean 13 tens, 8 ones.

7. Tell in two different ways what 184 means.

Three-Place Numbers



1. Look at the stamps above. Tell how many sheets of 100 stamps you see. Count them like this: 100, 200, . . ., . . ., . . .
2. Count the rest of the stamps. How many are there all together? 547 means . . . hundreds, . . . tens, and . . . ones.
3. What does the number 871 mean? the number 926?
4. The number 500 means 5 hundreds, **no** tens, and **no** ones. You read it **five hundred.** One 0 shows there are **no** tens and the other 0 shows there are **no** ones.
5. What does the number 800 mean? the number 600?
6. The number 370 means 3 hundreds, 7 tens, and **no** ones. You read it **three hundred seventy.** What does the 0 in 370 show?
7. The number 307 means 3 hundreds, **no** tens, and 7 ones. You read it **three hundred seven.** What does the 0 in 307 show?

Read each number. Tell what number goes in each space:

1. 256 means . . . hundreds, . . . tens, and . . . ones.
2. 734 means . . . hundreds, . . . tens, and . . . ones.
3. 860 means . . . hundreds, . . . tens, and . . . ones.
4. 407 means . . . hundreds, . . . tens, and . . . ones.
5. 900 means . . . hundreds, . . . tens, and . . . ones.

Write the number that means

6. 5 hundreds, 3 tens, 8 ones — 7 tens and 4 ones
7. 9 hundreds, 5 tens, 0 ones — 3 tens and 5 ones
8. 3 hundreds, 0 tens, 4 ones — 9 tens and 0 ones
9. 7 hundreds, 0 tens, 0 ones — 6 tens and 9 ones
10. 4 hundreds, 6 tens, 7 ones — 4 tens and 0 ones

Write these numbers in figures:

11. two hundred nineteen — four hundred sixty
12. five hundred fifty-four — six hundred twelve
13. one hundred fourteen — nine hundred
14. Read these numbers: 728 904 350 615 800
15. Tell how many hundreds, tens, and ones there are in each number in exercise 14.
16. What is the smallest number of 3 places?
17. What is the largest number of 3 places?
18. Using the figures 3, 7, and 6, write the largest number you can; the smallest number you can.

Checking Addition

1. **Problem** The school busses took 84 children to the park yesterday. Today they took 92 children there. How many children went to the park?

Explanation When you add, begin at the bottom and add up. Think, "2 ones and 4 ones are 6 ones." Write 6 in ones place. Then think, "9 tens and 8 tens are 17 tens." 17 tens means 1 hundred and 7 tens. Write 1 in hundreds place and 7 in tens place. The answer is 176. So 176 children went to the park.

$$\begin{array}{r}84\\ \underline{92}\\ 176\end{array}$$

You see that the answer is a 3-place number. The sum of the figures in tens place is more than 9. When this happens, you have three places in the answer.

To check the work, add the numbers again. Begin at the top and add down. Think, "4 ones and 2 ones are 6 ones." Then think, "8 tens and 9 tens are 17 tens." The sum is 176, so the work is right.

Add these numbers. Check your work:

2.	75 61	44 61	52 57	83 91	64 55	74 83	22 83	86 83
3.	13 95	84 74	76 31	91 97	72 76	63 72	58 61	72 85
4.	76 72	92 84	53 66	63 44	95 83	81 74	67 61	92 12
5.	81 98	67 62	33 73	85 82	61 73	84 22	51 52	95 94

More Practice. See ⑥ on page 314.

1. **Problem** Jack has 158 stamps. Bill has 84 stamps. How many fewer stamps has Bill than Jack?

Explanation In this problem you must subtract a two-place number from a three-place number.

158
84
74

Think, "4 ones from 8 ones, 4 ones." Write 4 in ones place. Remember that 1 hundred and 5 tens are the same as 15 tens. Think, "8 tens from 15 tens, 7 tens." Write 7 in tens place. The answer is 74. So Bill has 74 fewer stamps than Jack.

To check the work, add the answer, 74, to 84 and see if the sum is 158. Add up and think, "4 ones and 4 ones are 8 ones. 7 tens and 8 tens are 15 tens." You find the sum is 158, so the work is right.

Subtract these numbers and check your work:

2.	168 82	157 86	135 61	174 92	119 56	126 63
3.	103 22	136 71	109 63	187 92	109 95	108 54
4.	116 65	105 43	159 71	105 34	178 83	148 76
5.	179 87	127 64	168 87	136 74	104 73	157 73
6.	186 92	159 84	117 55	104 81	135 62	179 98

More Practice. See ⑦ on page 315.

To the Teacher. See page 328 for the additive method of subtraction.

Do You Add or Subtract?

Tell whether you should add or subtract in each of these problems. Then work the problem:

1. In the park 6 boys and 5 girls are waiting to ride a pony. How many children are waiting to take a ride?

2. A ride on the pony costs 25¢. Last year a ride cost 14¢. This year how much more does a ride cost than last year?

3. Ann had 3 dolls. Her mother gave her 2 more. How many dolls did Ann have then?

4. Jack had a dime. He spent 5 cents for a pencil. How much money did he have left?

5. Betty had 36 cookies ready to bake. She is baking 24 of them now. How many more cookies does she have to bake?

6. In the summer Peter read 6 books. Dick read only 4 books in the same time. How many fewer books did Dick read than Peter?

7. Susan picked up 3 red leaves, 4 yellow leaves, and 2 brown leaves. How many leaves did she pick up?

8. Billy spent 15¢ for candy and 44¢ for a ticket to the movies. How much did he spend for both?

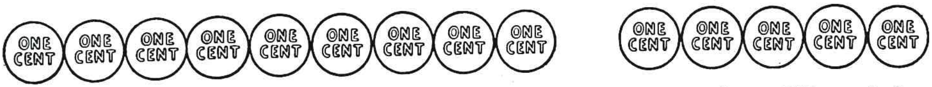
9. Mary sold 5 birthday cards yesterday and 6 cards today. How many has she sold in the two days?

Read each question and answer it by saying "Yes" or "No":

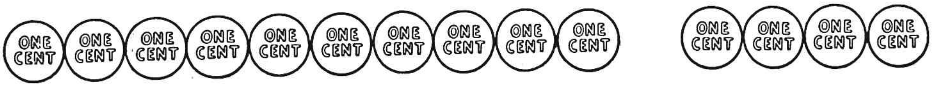
1. Will 10 pennies buy as much as 1 dime?
2. Is 39 the number that means 9 tens and 3 ones?
3. Do a dime and a nickel make 20 cents?
4. Are 100 and 101 the next two numbers after 99?
5. Is a dime more than 3 nickels?
6. Is 57 a larger number than 75?
7. Do you subtract to find how many 15 less 7 is?
8. Do you add 8 and 9 to find their sum?
9. Do four and two and three make ten?
10. Is 11 the smallest two-place number?
11. Is 99 the largest two-place number?
12. Does 169 mean 16 tens and 9 ones?
13. Is 125 the sum of 62 and 63?
14. Does 5 + 5 have the same sum as 7 + 3?
15. Is 19 the way to write the number nineteen?
16. Is 80 the number that means 8 tens and 0 ones?
17. Do fifty-one and fifty-one make ninety-two?
18. Do you add to find how much less than 8 three is?
19. Do 7 nickels make more than 40 cents?
20. Do 6 + 5 and 5 + 6 have the same answer?
21. Do you add when you put two groups together?
22. Are 12 airplanes fewer than 25 airplanes?

Adding 9 to a Number

1. Here are 9 pennies and 5 pennies:



Put 1 of the 5 pennies with the 9 pennies, like this:



You now have 10 pennies and 4 pennies. You see that 9 and 5 are the same as 10 and 4, or 14. How many are 9 and 5? How many are 5 + 9?

$$\begin{array}{r} 9 \\ +5 \\ \hline 14 \end{array} \qquad \begin{array}{r} 5 \\ +9 \\ \hline 14 \end{array}$$

2. Use real pennies or play pennies for this. Show that 9 pennies and 6 pennies are the same as 10 pennies and 5 pennies, or . . . pennies. How many are 9 and 6? How many are 6 + 9?

$$\begin{array}{r} 9 \\ +6 \\ \hline 15 \end{array} \qquad \begin{array}{r} 6 \\ +9 \\ \hline 15 \end{array}$$

To add 9 and 6, take 1 from 6, which gives 5.
Then add 10, which gives 15.

3. Show that 9 apples and 4 apples are the same as 10 apples and . . . apples, or . . . apples. How many are 9 and 4? How many are 4 + 9?

$$\begin{array}{r} 9 \\ +4 \\ \hline 13 \end{array} \qquad \begin{array}{r} 4 \\ +9 \\ \hline 13 \end{array}$$

4. Draw 9 dots. Then draw 3 more dots. Show that 9 dots and 3 dots are the same as 10 dots and . . . dots, or . . . dots. How many are 9 and 3? How many are 3 + 9?

$$\begin{array}{r} 9 \\ +3 \\ \hline 12 \end{array} \qquad \begin{array}{r} 3 \\ +9 \\ \hline 12 \end{array}$$

5. Show that 9 and 7 are the same as 10 and . . ., or . . . How many are 9 and 7? How many are 7 and 9?

$$\begin{array}{r} 9 \\ +7 \\ \hline 16 \end{array} \qquad \begin{array}{r} 7 \\ +9 \\ \hline 16 \end{array}$$

A quick way to add 9 and 7 is like this: Look at 7 and think "6." Then say "16." Sixteen means 6 and 10. Teen means 10.

6. Show that 9 pennies and 2 pennies are the same as 10 pennies and 1 penny. How many are 9 and 2? How many are 2 + 9?

$$\begin{array}{r} 9 \\ +2 \\ \hline 11 \end{array} \qquad \begin{array}{r} 2 \\ +9 \\ \hline 11 \end{array}$$

7. How many are 9 and 9? How many are 9 and 8? These facts were also given on pages 42 and 45.

8. Try to remember the new facts in exercises 1 to 6.

Tell the answers:

9. 9 and 7 are the same as 10 and . . ., or . . .

10. 9 and 6 are the same as 10 and . . ., or . . .

11. 9 and 4 are the same as 10 and . . ., or . . .

12. 9 and 5 are the same as 10 and . . ., or . . .

13. 9 + 6 = 10 + . . ., or . . .   6 + 9 = . . .

14. 9 + 7 = 10 + . . ., or . . .   7 + 9 = . . .

15. 9 + 3 = 10 + . . ., or . . .   3 + 9 = . . .

16. 9 + 5 = 10 + . . ., or . . .   5 + 9 = . . .

17. 9 + 4 = 10 + . . ., or . . .   4 + 9 = . . .

Practicing the 9's Facts

1. There is another way to find the answer to an addition fact with 9 in it. To find 5 + 9, think, "5 and 10 are 15, so 5 and 9 are 1 less than 15, or 14."

Tell these answers:

2. 6 and 10 are . . ., so 6 and 9 are . . .

3. 3 and 10 are . . ., so 3 and 9 are . . .

4. 8 and 10 are . . ., so 8 and 9 are . . .

5. 7 + 10 = . . ., so 7 + 9 = . . .

6. 2 + 10 = . . ., so 2 + 9 = . . .

7. 4 + 10 = . . ., so 4 + 9 = . . .

8. 9 + 10 = . . ., so 9 + 9 = . . .

9. Bill caught 6 fish and Tom caught 9 fish. How many fish did both boys catch?

10. A pencil costs 5¢ and a bus ticket costs 9¢. How much money does Ann need for both?

Add these numbers:

11. 9 and 4 are . . .   2 + 9 = . . .   9 + 4 = . . .

12. 8 and 9 are . . .   9 + 5 = . . .   8 + 9 = . . .

13. 9 and 6 are . . .   9 + 3 = . . .   9 + 6 = . . .

14. 5 and 9 are . . .   9 + 8 = . . .   9 + 2 = . . .

15. 7 and 9 are . . .   4 + 9 = . . .   7 + 9 = . . .

16. 3 and 9 are . . .   6 + 9 = . . .   3 + 9 = . . .

17. 9 and 2 are . . .   9 + 7 = . . .   5 + 9 = . . .

Problems and Practice

1. There were 9 boys and 9 girls in the school bus. How many children were in the bus?
2. At the first stop 9 girls and 2 boys got off the bus. How many children got off the bus at the first stop?
3. Yesterday there were 9 girls and 5 boys in the bus when it left school. How many children left school in the bus yesterday?
4. Show that 9 and 8 are the same as 10 and . . ., or . . . You have studied 9 and 8 before this. On what page was it? You have also studied 9 and 9. Where was it?

Find these sums:

5.	9 + 7	5 + 9	9 + 3	4 + 9	9 + 6
6.	9 + 4	9 + 9	2 + 9	9 + 8	3 + 9
7.	6 + 9	9 + 2	8 + 9	9 + 5	7 + 9

Add these numbers:

8.	9	5	9	2	9	9	9	8	6
	3	9	9	9	7	1	4	9	9
9.	8	1	2	4	5	9	9	9	3
	9	9	9	9	9	6	9	5	9
10.	9	4	9	9	6	9	9	9	7
	6	9	5	7	9	8	2	3	9

Fun in the Park

1. Last week Jack's father took 9 girls and 9 boys to the park. How many children all together went to the park with Jack's father?
2. They saw 11 bears in all in the park. There were 6 white bears. The other bears were brown. How many brown bears did the children see?
3. In cages the children saw 9 large monkeys and 5 small monkeys. How many monkeys did they see? How many more large monkeys than small ones were there in the cages?

4. The children counted 15 birds in one cage. There were 7 birds with long tails. The others had short tails. How many birds in that cage had short tails?

5. Last year there were 3 lions in the park. Now there are 5 lions. How many more lions are there this year than last year? How many fewer lions were there last year than this year?

6. There is a small farm at the park. The children saw 2 goats, 2 sheep, and 5 pigs on the farm. How many farm animals did the children see?

7. At the park 7 boys and 6 girls had a ride on a pony. How many children had a pony ride?

8. Jack had 75¢ to spend when he went to the park. He spent 63¢ all together. How much money did Jack have left?

Oral Practice

Say the answers:

1. 6 and 6 are . . ., so 6 and 7 are . . .
2. 8 and 8 are . . ., so 8 and 9 are . . .
3. 7 and 7 are . . ., so 8 and 7 are . . .
4. 5 and 5 are . . ., so 5 and 6 are . . .
5. 9 and 6 are the same as 10 and . . ., or . . .
6. 9 and 3 are the same as 10 and . . ., or . . .
7. 9 and 8 are the same as 10 and . . ., or . . .
8. 9 and 4 are the same as 10 and . . ., or . . .
9. 9 and 7 are the same as 10 and . . ., or . . .
10. 9 and 5 are the same as 10 and . . ., or . . .
11. $7 + 6 =$ $6 + 7 =$ $13 - 7 =$ $13 - 6 =$
12. $6 + 5 =$ $5 + 6 =$ $11 - 6 =$ $11 - 5 =$
13. $7 + 8 =$ $8 + 7 =$ $15 - 7 =$ $15 - 8 =$
14. $8 + 9 =$ $9 + 8 =$ $17 - 8 =$ $17 - 9 =$
15. Tell what the number 85 means.
16. Tell what the number 285 means.
17. Tell what number means 3 hundreds, 4 tens, 9 ones.
18. Tell in two ways what the number 175 means.
19. 8 and . . . are 15. 6 and . . . are 12.
20. 9 and . . . are 18. 7 and . . . are 13.
21. 7 and . . . are 14. 6 and . . . are 11.
22. 8 and . . . are 17. 8 and . . . are 16.

Problems and Practice

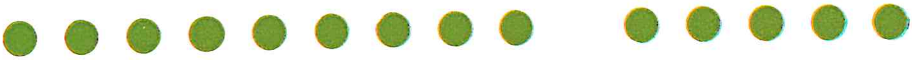
1. How many are 3 cents, 4 cents, and 3 cents?
2. Tom gave a paper hat to each child at his birthday party. There were 4 red hats, 4 yellow hats, and 2 blue hats. How many paper hats were there?
3. Susan has 2 yellow birds and 4 puppies. How many pets in all has she?
4. Jack spent 45¢ for a picture book. Then he paid 12¢ to ride home on the bus. How much money did Jack spend?
5. Betty saved 58¢ last week. She can save only 35¢ this week. How much less will Betty save this week than last?
6. Dick made 3 paper airplanes. Bill made 4 and Peter made 2. How many planes did the three boys make?
7. Mary paid 9¢ for paper and 8¢ for pencils. How much did Mary spend all together?
8. The boys are making tickets for the school play. They need 85 tickets. Now they have made 32 of them. How many more must they make?

Add these numbers and check your work:

9.	3	8	7	6	5	4	6	4	8
	6	1	2	3	4	3	2	5	1
	3	6	4	3	5	6	7	4	8
10.	6	7	2	8	7	6	5	4	6
	3	2	4	1	2	1	4	2	3
	4	5	5	7	6	8	2	7	2

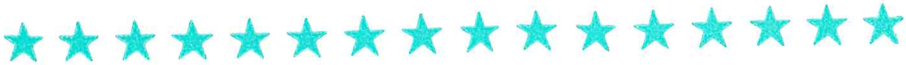
More Practice. See ⑧ on page 315.

More New Subtraction Facts



1. You have learned that you can make 2 subtraction facts from an addition fact. The dots above show that 9 + 5 = . . . From this addition fact you can make the two subtraction facts: 14 − 9 = . . . and 14 − 5 = . . .

$$\begin{array}{r} 14 \\ -9 \\ \hline 5 \end{array} \qquad \begin{array}{r} 14 \\ -5 \\ \hline 9 \end{array}$$



2. Here are 16 stars. Cover 7 stars. How many stars are not covered? This shows that 7 from 16 is . . . Begin again. Now cover 9 stars. How many stars are not covered? This shows that 9 from 16 is . . . 16 − 7 = . . . and 16 − 9 = . . .

$$\begin{array}{r} 16 \\ -7 \\ \hline 9 \end{array} \qquad \begin{array}{r} 16 \\ -9 \\ \hline 7 \end{array}$$

3. Put 12 pencils on the table. Now take away 9 pencils. How many pencils are left? This shows that 9 from 12 is . . . Put all 12 pencils on the table again. Take away 3 pencils. How many are left? This shows that 3 from 12 is . . . 12 − 9 = . . . and 12 − 3 = . . .

$$\begin{array}{r} 12 \\ -9 \\ \hline 3 \end{array} \qquad \begin{array}{r} 12 \\ -3 \\ \hline 9 \end{array}$$

Tell what numbers should go in the spaces:

4. 9 from 14 is . . . because 9 and . . . are 14.

5. 9 from 12 is . . . because 9 and . . . are 12.

6. 9 from 16 is . . . because 9 and . . . are 16.

7. 5 from 14 is . . . because 5 and . . . are 14.

8. Here are 13 stars. Cover 4 stars. How many stars are left? 4 stars from 13 stars leaves how many stars? 4 from 13 is how many? Begin again. Now cover 9 stars. How many stars are left? 9 stars from 13 stars leaves how many stars? 9 from 13 is how many?

$$\begin{array}{r}13\\-4\\\hline 9\end{array}\qquad\begin{array}{r}13\\-9\\\hline 4\end{array}$$

9. Here are 15 dots. Cover 6 dots. How many dots are not covered? 6 dots from 15 dots leaves how many dots? 6 from 15 is how many? Begin again. Now cover 9 dots. How many dots are not covered? 9 dots from 15 dots leaves how many dots? 9 from 15 is how many?

$$\begin{array}{r}15\\-6\\\hline 9\end{array}\qquad\begin{array}{r}15\\-9\\\hline 6\end{array}$$

10. Here are 11 bells. Cover 2 bells. How many bells are not covered? 2 bells from 11 bells leaves how many bells? 2 from 11 is how many? Begin again. Now cover 9 bells. How many bells are not covered? 9 bells from 11 bells leaves how many bells? 9 from 11 is how many?

$$\begin{array}{r}11\\-2\\\hline 9\end{array}\qquad\begin{array}{r}11\\-9\\\hline 2\end{array}$$

Say the answers:

11. $$\begin{array}{r}16\\-7\\\hline\end{array}\quad\begin{array}{r}13\\-9\\\hline\end{array}\quad\begin{array}{r}15\\-6\\\hline\end{array}\quad\begin{array}{r}11\\-2\\\hline\end{array}\quad\begin{array}{r}16\\-9\\\hline\end{array}\quad\begin{array}{r}14\\-5\\\hline\end{array}\quad\begin{array}{r}12\\-9\\\hline\end{array}\quad\begin{array}{r}15\\-9\\\hline\end{array}$$

More Practice on 9's

Tell what numbers should be put in the spaces:

1. 9 and . . . are 14, so 9 from 14 is . . .

2. 9 and . . . are 16, so 9 from 16 is . . .

3. 9 and . . . are 12, so 9 from 12 is . . .

4. 2 and . . . are 11, so 2 from 11 is . . .

5. 8 and . . . are 17, so 8 from 17 is . . .

6. 9 and . . . are 13, so 9 from 13 is . . .

7. Tom had 17 peanuts in his pocket. He gave 9 peanuts to a friend. How many peanuts did Tom have left?

8. Joe had 16¢ when he went to the candy store. He spent 7¢. How many cents did he have left?

9. Mary Ann has 9¢. She wants to buy a ball that costs 15¢. How many more cents does she need?

10. Jim had 12 candies. He gave 3 to Sally. How many candies did Jim have left?

11. Betty has 9¢. She wants to buy cookies that cost 18¢. How many more cents does she need?

Say the answers:

12.	$\begin{array}{r} 9 \\ +6 \\ \hline \end{array}$	$\begin{array}{r} 7 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 3 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -4 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -5 \\ \hline \end{array}$
13.	$\begin{array}{r} 9 \\ +4 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +8 \\ \hline \end{array}$	$\begin{array}{r} 9 \\ +5 \\ \hline \end{array}$	$\begin{array}{r} 13 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 11 \\ -2 \\ \hline \end{array}$	$\begin{array}{r} 12 \\ -3 \\ \hline \end{array}$	$\begin{array}{r} 18 \\ -9 \\ \hline \end{array}$
14.	$\begin{array}{r} 9 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 2 \\ +9 \\ \hline \end{array}$	$\begin{array}{r} 16 \\ -7 \\ \hline \end{array}$	$\begin{array}{r} 14 \\ -9 \\ \hline \end{array}$	$\begin{array}{r} 10 \\ -1 \\ \hline \end{array}$	$\begin{array}{r} 17 \\ -8 \\ \hline \end{array}$	$\begin{array}{r} 15 \\ -6 \\ \hline \end{array}$

Problems and Practice

Say the answers:

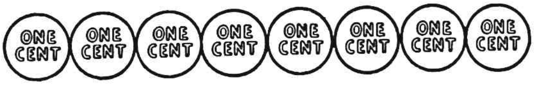
1. 12 − 9 = 13 − 7 = 15 − 9 = 12 − 6 =
2. 14 − 9 = 17 − 9 = 16 − 8 = 11 − 2 =
3. 18 − 9 = 15 − 8 = 12 − 3 = 16 − 9 =
4. 11 − 5 = 13 − 9 = 11 − 9 = 11 -- 6 =
5. 15 − 6 = 14 − 7 = 16 − 7 = 17 − 8 =
6. 13 − 4 = 13 − 6 = 14 − 5 = 15 − 7 =
7. Jim sold 125 papers yesterday. Today he sold only 94 papers. How many more papers did Jim sell yesterday than today?
8. Ann's new story book has 176 pages. Ann has read 92 pages so far. How many more pages has she still to read?
9. Today Bill rode 157 miles with his father. By lunch time they had gone 85 miles. How many miles did they ride after lunch?

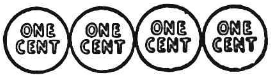
Subtract these numbers and check your work:

10.	178 84	138 67	145 94	157 66	126 95	169 85
11.	119 56	157 74	139 41	185 93	149 58	126 34
12.	168 72	117 62	158 86	134 92	174 81	134 73
13.	109 32	178 95	169 97	145 72	157 93	118 63

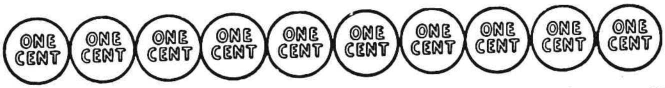
Adding 8 to a Number

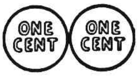
1. Here are 8 pennies and 4 pennies:





Put 2 of the 4 pennies with the 8 pennies, like this:





You see 10 pennies and 2 pennies. This shows that 8 and 4 are the same as 10 and . . ., or . . . How many are 8 and 4? How many are 4 and 8?

$$\begin{array}{r} 8\\ +4\\ \hline 12 \end{array} \qquad \begin{array}{r} 4\\ +8\\ \hline 12 \end{array}$$

2. Use pennies or pencils for this. Show that 8 and 5 are the same as 10 and . . ., or . . . How many are 8 and 5? How many are 5 and 8?

$$\begin{array}{r} 8\\ +5\\ \hline 13 \end{array} \qquad \begin{array}{r} 5\\ +8\\ \hline 13 \end{array}$$

To add 8 and 5, take 2 from 5, which gives 3. Then add 10, which gives 13.

3. Use pennies or pencils for this. Show that 8 and 3 are the same as 10 and . . ., or . . . How many are 8 and 3? How many are 3 and 8?

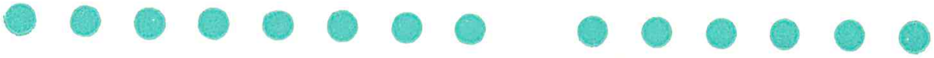
$$\begin{array}{r} 8\\ +3\\ \hline 11 \end{array} \qquad \begin{array}{r} 3\\ +8\\ \hline 11 \end{array}$$

Tell what numbers go in the spaces:

4. 8 and 5 are the same as 10 and . . ., or . . .

5. 8 and 4 are the same as 10 and . . ., or . . .

6. 8 and 3 are the same as 10 and . . ., or . . .



7. Here are 8 dots and 6 dots. Take away 2 dots from the 6 dots and put them with the 8 dots. Then there are 10 dots and . . . dots. 8 and 6 are the same as 10 and . . ., or . . .

$\begin{array}{r}8\\+6\\\hline 14\end{array} \qquad \begin{array}{r}6\\+8\\\hline 14\end{array}$

8. 8 and 7 are the same as 10 and . . ., or . . .

9. 8 and 9 are the same as 10 and . . ., or . . .

10. A quick way to add 8 and 5 is like this: Take 2 from 5 and think "3." Then say "13." What is a quick way to add 8 and 6?

11. Billy spent 8¢ for marbles and 3¢ for candy. How many cents did Billy spend all together?

12. Sally sold 5 tickets today and 8 tickets on Saturday. How many tickets did she sell in the two days?

13. Dick sold 9 tickets today and 8 tickets on Saturday. How many tickets did he sell in the two days?

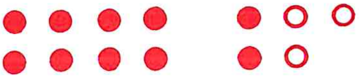
Add these numbers:

14.	$\begin{array}{r}8\\3\\\hline\end{array}$	$\begin{array}{r}8\\8\\\hline\end{array}$	$\begin{array}{r}6\\8\\\hline\end{array}$	$\begin{array}{r}8\\1\\\hline\end{array}$	$\begin{array}{r}9\\8\\\hline\end{array}$	$\begin{array}{r}8\\7\\\hline\end{array}$	$\begin{array}{r}4\\8\\\hline\end{array}$	$\begin{array}{r}2\\8\\\hline\end{array}$	$\begin{array}{r}8\\6\\\hline\end{array}$
15.	$\begin{array}{r}5\\8\\\hline\end{array}$	$\begin{array}{r}8\\6\\\hline\end{array}$	$\begin{array}{r}3\\8\\\hline\end{array}$	$\begin{array}{r}7\\8\\\hline\end{array}$	$\begin{array}{r}8\\4\\\hline\end{array}$	$\begin{array}{r}3\\8\\\hline\end{array}$	$\begin{array}{r}8\\2\\\hline\end{array}$	$\begin{array}{r}8\\9\\\hline\end{array}$	$\begin{array}{r}8\\7\\\hline\end{array}$
16.	$\begin{array}{r}9\\8\\\hline\end{array}$	$\begin{array}{r}8\\2\\\hline\end{array}$	$\begin{array}{r}8\\4\\\hline\end{array}$	$\begin{array}{r}8\\3\\\hline\end{array}$	$\begin{array}{r}8\\5\\\hline\end{array}$	$\begin{array}{r}7\\8\\\hline\end{array}$	$\begin{array}{r}6\\8\\\hline\end{array}$	$\begin{array}{r}8\\8\\\hline\end{array}$	$\begin{array}{r}1\\8\\\hline\end{array}$

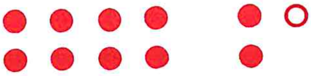
More Practice

Tell the numbers that go in the spaces:

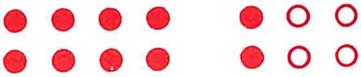
1. $8 + 5 = 10 + 3$, or . . .
$8 + 5 =$ . . ., so $5 + 8 =$ . . .



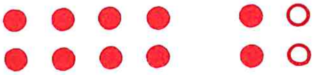
2. $8 + 3 = 10 +$ . . ., or . . .
$8 + 3 =$ . . ., so $3 + 8 =$ . . .



3. $8 + 6 = 10 +$ . . ., or . . .
$8 + 6 =$ . . ., so $6 + 8 =$ . . .



4. $8 + 4 = 10 +$ . . ., or . . .
$8 + 4 =$ . . ., so $4 + 8 =$ . . .



5. Peter read 8 books about animals and 5 books about airplanes. How many books did Peter read?

6. Mary read 8 books last month and 6 books this month. How many books in all did she read in the two months?

7. Jack saw 8 airplanes on the airfield. He also saw 4 airplanes flying. How many planes all together did Jack see?

8. Susan had 3¢ in her pocket. Her mother gave her 8¢ this afternoon. How many cents has she now?

Say the answers:

9. 8 and . . . are 13. $8 +$ . . . $= 15$

10. 8 and . . . are 17. $8 +$ . . . $= 11$

11. 4 and . . . are 12. $8 +$ . . . $= 16$

12. 6 and . . . are 14. $5 +$ . . . $= 13$

13. 2 and . . . are 10. $7 +$ . . . $= 15$

More about Money

Nickel
5¢

Dime
10¢

Quarter
25¢

Half Dollar
50¢

25 cents make 1 quarter.
50 cents make 1 half dollar.
100 cents make 1 dollar.

The sign $ means **dollar** or **dollars.** $5 means 5 dollars.

1. How many cents equal 2 dimes and 1 nickel?
2. How many nickels make 1 quarter? How many nickels make 1 half dollar?
3. How many dimes and nickels make 1 quarter? You can have two different answers.
4. How many 10's make 100? How many dimes make 100 cents or $1?
5. How many cents equal a half dollar?
6. How many quarters equal a half dollar?
7. How many dimes equal a half dollar?
8. How many cents equal 4 dimes and a nickel?
9. How many cents equal 1 quarter and 1 dime?
10. How many cents equal 1 half dollar and 1 dime?
11. How many cents equal 2 nickels and 3 cents?

New Subtraction Facts

1. 8 and . . . are 11, so 8 from 11 is . . .
3 and . . . are 11, so 3 from 11 is . . .
How many are 8 from 11? How many are 3 from 11?

$$\begin{array}{r}11\\-8\\\hline 3\end{array}\qquad\begin{array}{r}11\\-3\\\hline 8\end{array}$$

2. 8 and . . . are 12, so 8 from 12 is . . .
4 and . . . are 12, so 4 from 12 is . . .
How many are 8 from 12? How many are 4 from 12?

$$\begin{array}{r}12\\-8\\\hline 4\end{array}\qquad\begin{array}{r}12\\-4\\\hline 8\end{array}$$

3. 8 and . . . are 13, so 8 from 13 is . . .
5 and . . . are 13, so 5 from 13 is . . .
How many are 8 from 13? How many are 5 from 13?

$$\begin{array}{r}13\\-8\\\hline 5\end{array}\qquad\begin{array}{r}13\\-5\\\hline 8\end{array}$$

4. 8 and . . . are 14, so 8 from 14 is . . .
6 and . . . are 14, so 6 from 14 is . . .
How many are 8 from 14? How many are 6 from 14?

$$\begin{array}{r}14\\-8\\\hline 6\end{array}\qquad\begin{array}{r}14\\-6\\\hline 8\end{array}$$

Subtract these numbers:

5. $$\begin{array}{r}14\\-6\\\hline\end{array}\quad\begin{array}{r}11\\-8\\\hline\end{array}\quad\begin{array}{r}17\\-9\\\hline\end{array}\quad\begin{array}{r}15\\-8\\\hline\end{array}\quad\begin{array}{r}13\\-8\\\hline\end{array}\quad\begin{array}{r}10\\-2\\\hline\end{array}\quad\begin{array}{r}16\\-8\\\hline\end{array}\quad\begin{array}{r}12\\-4\\\hline\end{array}$$

6. $$\begin{array}{r}15\\-7\\\hline\end{array}\quad\begin{array}{r}12\\-8\\\hline\end{array}\quad\begin{array}{r}11\\-3\\\hline\end{array}\quad\begin{array}{r}16\\-8\\\hline\end{array}\quad\begin{array}{r}10\\-8\\\hline\end{array}\quad\begin{array}{r}14\\-8\\\hline\end{array}\quad\begin{array}{r}12\\-8\\\hline\end{array}\quad\begin{array}{r}11\\-3\\\hline\end{array}$$

7. $$\begin{array}{r}10\\-8\\\hline\end{array}\quad\begin{array}{r}11\\-8\\\hline\end{array}\quad\begin{array}{r}13\\-5\\\hline\end{array}\quad\begin{array}{r}14\\-8\\\hline\end{array}\quad\begin{array}{r}17\\-8\\\hline\end{array}\quad\begin{array}{r}14\\-6\\\hline\end{array}\quad\begin{array}{r}17\\-9\\\hline\end{array}\quad\begin{array}{r}15\\-8\\\hline\end{array}$$

8. $$\begin{array}{r}17\\-8\\\hline\end{array}\quad\begin{array}{r}13\\-8\\\hline\end{array}\quad\begin{array}{r}12\\-4\\\hline\end{array}\quad\begin{array}{r}10\\-2\\\hline\end{array}\quad\begin{array}{r}11\\-3\\\hline\end{array}\quad\begin{array}{r}15\\-7\\\hline\end{array}\quad\begin{array}{r}13\\-5\\\hline\end{array}\quad\begin{array}{r}16\\-8\\\hline\end{array}$$

More Practice

Tell the numbers that go in the spaces:

1. 5 from 13 is . . . because 5 and . . . are 13.
2. 8 from 14 is . . . because 8 and . . . are 14.
3. 9 from 17 is . . . because 9 and . . . are 17.
4. 8 from 11 is . . . because 8 and . . . are 11.
5. 4 from 12 is . . . because 4 and . . . are 12.
6. 6 from 14 is . . . because 6 and . . . are 14.
7. Alice read 11 pages of her book. Ann read 8 pages of her book. How many more pages did Alice read than Ann?

8. Dick has saved 8¢. He wants to have 15¢ for a ball. How much more does Dick need to save?
9. Mary picked 14 flowers. She gave 6 flowers to Betty. How many flowers did Mary have left?
10. Jack had 12¢. He spent 4¢ for a lollipop. How many cents did Jack have left?

Study these groups of facts:

8 + 3 = 11	3 + 8 = 11	11 − 8 = 3	11 − 3 = 8
8 + 4 = 12	4 + 8 = 12	12 − 8 = 4	12 − 4 = 8
8 + 5 = 13	5 + 8 = 13	13 − 8 = 5	13 − 5 = 8
8 + 6 = 14	6 + 8 = 14	14 − 8 = 6	14 − 6 = 8
8 + 7 = 15	7 + 8 = 15	15 − 8 = 7	15 − 7 = 8
8 + 9 = 17	9 + 8 = 17	17 − 8 = 9	17 − 9 = 8

Do You Add or Subtract?

In each problem first tell whether you add or subtract:

1. There were 83 girls and 75 boys at the school picnic. How many children were there all together?
2. Bill sold 82 papers yesterday. He sold 55 papers today. How many papers in all did he sell?
3. Miss White had 144 pencils in a box. She gave the children 62 of them. How many pencils did Miss White have left?

Give the answers. Watch the signs:

4.	10	13	12	16	9	8	3	8
	−8	−8	−4	−8	−8	+7	+8	−6
5.	15	11	10	17	8	9	9	6
	−8	−8	−2	−9	+4	+8	−1	+8
6.	12	17	11	13	8	8	4	8
	−8	−8	−3	−5	−5	+5	+8	+8
7.	14	15	13	14	8	8	7	5
	−8	−7	−5	−6	+9	−4	+8	+8

8. Jim has saved 95¢ this week. Ann has saved only 63¢. How much more has Jim saved than Ann?
9. Mr. Brown wants 38 music books for the children. Now he has only 22 music books. How many more music books does he need?
10. Betty saves pretty buttons. She has 32 large buttons in one box. In another box she has 85 small buttons. How many buttons has Betty in both boxes?

Find the sums. Check your work:

1.	96	32	72	54	73	85	75
	52	92	97	51	86	93	74
2.	91	67	83	95	64	54	71
	86	72	85	62	55	93	68
3.	83	96	62	43	93	54	65
	72	73	66	94	93	64	91

More Practice. See ⑨ on page 315.

4. Two busses took the boys and girls to the airfield. In one bus were 52 children. In the second bus were 54 children. How many children rode in the busses?

5. Ann weighs 75 pounds. Betty weighs 72 pounds. Both girls rode downhill on a sled. How many pounds did the sled carry?

Write the three numbers in a column. Add up:

6.	6 + 3 + 4	7 + 2 + 6	5 + 4 + 2
7.	2 + 7 + 2	3 + 6 + 3	8 + 1 + 7
8.	6 + 1 + 8	5 + 2 + 7	6 + 3 + 3
9.	5 + 4 + 5	2 + 3 + 6	4 + 2 + 7

10. Bill saved $4 one month, $5 another month, and $4 the third month. How many dollars did Bill save in three months?

11. In a game Susan got 7 points, 2 points, and 4 points. How many points did Susan have all together?

Four New Addition Facts

1. 7¢ and 3¢ are . . .¢, so 7¢ and 4¢ are . . .¢.
2. 7¢ and 4¢ are . . .¢, so 4¢ and 7¢ are . . .¢.
3. 7¢ and 4¢ are . . .¢, so 7¢ and 5¢ are . . .¢.
4. 7¢ and 5¢ are . . .¢, so 5¢ and 7¢ are . . .¢.
5. 7 and 4 are . . . $7 + 4 = \dots$
6. 4 and 7 are . . . $4 + 7 = \dots$
7. 7 and 5 are . . . $7 + 5 = \dots$
8. 5 and 7 are . . . $5 + 7 = \dots$
9. Here are 7 stars and 4 stars:

Put 3 of the 4 stars with the 7 stars, like this:

You see 10 stars and 1 star. This shows that 7 and 4 are the same as 10 and 1, or . . . How many are 4 and 7?

$$\begin{array}{r} 7 \\ +4 \\ \hline 11 \end{array} \qquad \begin{array}{r} 4 \\ +7 \\ \hline 11 \end{array}$$

10. Show that 7 and 5 are the same as 10 and . . ., or . . . How many are 7 and 5? How many are 5 and 7?

$$\begin{array}{r} 7 \\ +5 \\ \hline 12 \end{array} \qquad \begin{array}{r} 5 \\ +7 \\ \hline 12 \end{array}$$

11. Peter had 7 pennies. Today his mother gave him 4 pennies. How many pennies has he now?
12. Sally cut out 5 paper dolls yesterday. Today she cut out 7. How many paper dolls did Sally cut out?
13. Joe picked 4 red apples and 7 green apples. How many apples did Joe pick?
14. 7 stars and 5 stars are how many stars?

Four New Subtraction Facts

1. 7 and . . . are 11, so 7 from 11 is . . .
4 and . . . are 11, so 4 from 11 is . . .
How many are 7 from 11? How many are 4 from 11?

$\begin{array}{r} 11 \\ -7 \\ \hline 4 \end{array} \qquad \begin{array}{r} 11 \\ -4 \\ \hline 7 \end{array}$

2. 7 and . . . are 12, so 7 from 12 is . . .
5 and . . . are 12, so 5 from 12 is . . .
How many are 7 from 12? How many are 5 from 12?

$\begin{array}{r} 12 \\ -7 \\ \hline 5 \end{array} \qquad \begin{array}{r} 12 \\ -5 \\ \hline 7 \end{array}$

3. $11 - 4 = \ldots \qquad 11 - 7 = \ldots \qquad 12 - 5 = \ldots$

4. $12 - 7 = \ldots \qquad 11 - 4 = \ldots \qquad 12 - 7 = \ldots$

5. Peter needs 12¢ for a toy to paint. He has 5¢ now. How much more does he need?

6. Tom's mother gave him 11 apples. He gave the boys 7 apples. How many apples did he have left?

7. Alice bought 12 cookies. The children ate 7 cookies. How many cookies were left?

8. Jane saved 11¢. She had found 4¢ and earned the rest. How many cents had Jane earned?

Study these groups of facts:

$7 + 4 = 11 \qquad 4 + 7 = 11 \qquad 11 - 7 = 4 \qquad 11 - 4 = 7$

$7 + 5 = 12 \qquad 5 + 7 = 12 \qquad 12 - 7 = 5 \qquad 12 - 5 = 7$

Tell the answers:

9. $\begin{array}{r} 4 \\ +7 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ -5 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ +4 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ +7 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ -4 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ +5 \\ \hline \end{array}$

Zero in Addition

1. The children in Mary's room are playing a game. Each child throws 2 rings at the clown's head. If a ring falls on the floor, it counts **zero.** Zero means **nothing.** You write zero like this: 0.

2. Mary throws one ring on 5. The second ring falls on the floor. It counts 0. Mary's score is 5 because 5 and 0 are 5.

$$\begin{array}{r} 5 \\ +0 \\ \hline 5 \end{array}$$

3. Jim's first ring falls on the floor. He throws the second ring on 4. What is Jim's score? How many are 0 and 4?

$$\begin{array}{r} 0 \\ +4 \\ \hline \end{array}$$

4. Ann throws two rings. Both of them fall on the floor. Ann's score is 0 + 0. How many is that?

$$\begin{array}{r} 0 \\ +0 \\ \hline \end{array}$$

If you add a number and zero, the sum is the same as the number itself.

Find the sums of these numbers:

5.	8	2	0	6	0	0	7	0
	0	0	9	0	0	4	0	3
6.	0	5	0	1	9	3	0	4
	7	0	8	0	0	0	2	0

Zero in Subtraction

1. Susan had 9¢. She spent 9¢ for a ball. How many cents did she have left?
▶ Susan spent all her money for the ball. She had nothing left. 9 − 9 = 0.

$$\begin{array}{r} 9 \\ -9 \\ \hline 0 \end{array}$$

2. Jack had 7¢. He spent 7¢ to ride on a bus. How many cents did he have left? How much is 7¢ less 7¢?

$$\begin{array}{r} 7 \\ -7 \\ \hline \end{array}$$

If you subtract a number from itself, there is nothing left. The answer is 0.

3. Dick had 4 pennies. He did not spend any pennies. How many pennies did Dick have left? How many are 4 less 0?

$$\begin{array}{r} 4 \\ -0 \\ \hline \end{array}$$

If you take 0 from a number, the answer is the same as the number itself.

Tell the answers:

4. $\begin{array}{r} 7 \\ -7 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ -0 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ -0 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ -4 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ -0 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ -8 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ -0 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ -0 \\ \hline \end{array}$

5. $\begin{array}{r} 9 \\ -9 \\ \hline \end{array} \quad \begin{array}{r} 0 \\ -0 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ -3 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ -0 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ -5 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ -0 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ -6 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ -0 \\ \hline \end{array}$

Adding and Subtracting

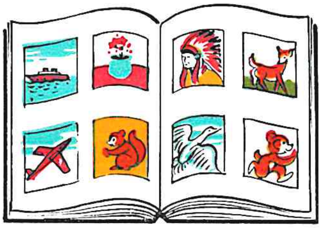
1. At the store Alice spent 45¢ for oranges and 30¢ for apples. How much did Alice spend all together?
2. Last spring Dick had $35 in the bank. In the summer he put $20 more in the bank. Then how many dollars did Dick have in the bank?

Find these sums. Check your work:

3.	89	41	63	72	64	84	50
	50	82	93	84	60	64	84
4.	85	73	65	83	90	87	82
	92	75	80	86	47	32	72

Write in columns and add. Check your work:

5. 4 + 4 + 5 6 + 0 + 6
6. 5 + 3 + 6 7 + 0 + 8



7. Bill's picture book holds 128 pictures. Bill has put 40 pictures in it. How many more can he put in his book?
8. Our teacher had 144 sheets of drawing paper. She gave 80 sheets of it to the girls and boys. How many sheets of drawing paper did she have left?

Subtract these numbers. Check your work:

9.	139	118	177	158	146	129
	50	85	82	78	83	46
10.	146	105	139	115	128	167
	66	84	82	32	84	80

More Practice. See ⑩ and ⑪ on page 316.

Test on the Addition Facts

Add. Try to say the right answers quickly:

1.	3	4	8	2	3	2	0	2	1	6
	6	4	2	3	4	6	9	1	8	0
2.	1	8	1	8	6	5	2	3	2	0
	7	0	1	7	3	5	2	8	4	1
3.	4	6	7	5	0	7	9	1	6	8
	3	6	3	1	6	1	8	3	4	8
4.	0	1	7	9	5	9	5	4	3	8
	5	4	9	0	2	7	3	0	2	5
5.	2	8	0	6	4	1	7	6	1	3
	9	1	4	9	7	6	0	5	5	7
6.	8	1	3	6	0	4	7	4	5	9
	3	0	9	7	0	6	7	1	0	9
7.	5	7	6	9	5	7	0	4	8	7
	4	5	2	1	6	4	3	8	9	2
8.	3	0	5	4	9	2	6	2	8	4
	3	7	8	2	6	0	8	5	4	5
9.	2	9	3	8	9	2	4	0	6	1
	7	5	5	6	2	8	9	8	1	2
10.	5	0	7	1	9	7	3	9	3	5
	7	2	6	9	4	8	0	3	1	9

To the Teacher. This page is to be used as a diagnostic test and results are best when it is administered orally to each pupil. These facts should be mastered so thoroughly that the pupil can give all the answers quickly and accurately.

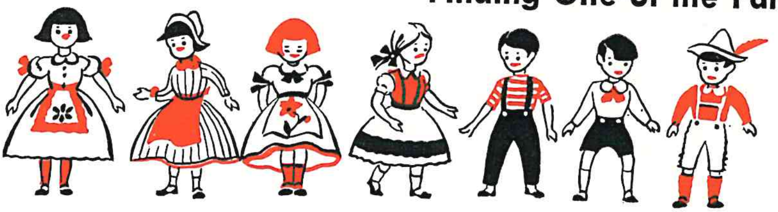
Test on the Subtraction Facts

Subtract. Try to say the right answers quickly:

1.	7 3	5 5	6 3	9 6	8 4	3 0	10 2	10 7	10 4	14 7
2.	9 2	1 0	7 5	8 8	4 1	5 3	12 6	10 1	10 3	10 5
3.	4 3	8 5	9 7	6 4	3 3	9 0	13 5	10 9	14 8	11 3
4.	2 0	7 7	8 1	5 2	7 6	9 3	16 9	15 7	12 3	17 8
5.	3 1	9 4	6 0	5 4	1 1	8 2	10 6	11 7	13 8	12 7
6.	2 1	7 1	2 2	8 7	7 0	13 4	11 4	16 8	12 4	15 9
7.	6 2	9 9	3 2	4 0	6 5	10 8	15 6	11 8	18 9	13 6
8.	4 2	8 6	6 1	8 3	5 0	11 2	13 9	12 8	14 9	11 5
9.	4 4	9 5	8 0	7 4	9 8	17 9	12 5	15 8	11 9	14 6
10.	5 1	0 0	7 2	9 1	6 6	14 5	13 7	11 6	16 7	12 9

To the Teacher. This page is to be used as a diagnostic test. See the suggestions for the test on the addition facts on page 87. Some teachers prefer to make tests on the basic facts by means of flash cards, each card containing one fact.

Finding One of the Parts



1. Susan has 7 dolls. She has 4 girl dolls. The rest are boy dolls. How many boy dolls has Susan?
▶ Count the boy dolls in the picture above. How many are there? A shorter way to find the number of boy dolls is to subtract 4 from 7. Does this give the same answer?

2. Jim has 10 pigs. Two of them are black pigs. The others are white. How many white pigs has Jim?

3. Mother bought 18 cookies. Nine of them were sugar cookies. The rest were nut cookies. How many nut cookies did Mother buy?

4. There were 25 children at Jane's party. 12 of them were girls. How many boys were there?

5. Betty picked 15 flowers. 6 were yellow. The rest were blue. How many blue flowers were there?

6. Dick has 30 hens. 10 hens are brown. The rest are white. How many white hens has Dick?

7. Ann spent 25¢ for ice cream and candy. The ice cream cost 15¢. How much did the candy cost?

If you know the whole number and one of its parts, you subtract to find the other part of the number.

Chapter Review

1. 7 from 12 is . . . because 7 and . . . are 12.
2. 8 from 11 is . . . because 8 and . . . are 11.
3. How many cents do 2 quarters equal?
4. How many cents do 2 dimes and 4 pennies equal?
5. 374 means . . . hundreds, . . . tens, . . . ones.
6. 605 means . . . hundreds, . . . tens, . . . ones.

Add these numbers and check your work:

7.	5	3	7	8	4	2	6	4
	3	6	1	0	3	6	2	4
	6	2	6	5	5	3	5	4

8.	56	92	75	63	84	31	94	40
	93	86	93	72	45	85	63	97

9. Take 73 from 127. What is the answer?
10. Dick had 118 bags of peanuts to sell. He has sold 45 bags so far. How many more bags does Dick want to sell?
11. Susan has 115 cards with flower pictures. She also has 72 cards with bird pictures. How many fewer bird pictures than flower pictures has she?

Subtract. Check your work by adding:

12.	76	89	65	149	128	127	179
	54	71	25	63	83	54	96

13.	37	54	98	116	115	147	138
	12	43	72	26	72	60	56

A Problem Test

1. Betty had 12 paper dolls. She gave 4 of them to Ann. How many did she have left?
2. Jim has 178 stamps in his book. Bill has only 95 stamps in his book. How many more stamps has Jim than Bill?
3. Susan earned 50¢. Her father gave her a quarter. Has Susan enough money to buy a game for 69¢?
4. Joe has 12 toy airplanes. There are 3 large ones. The rest are small. How many small planes has Joe?
5. On Uncle Jim's farm Peter saw 6 kittens, 3 puppies, and 6 rabbits. How many animals did Peter see?
6. Last month Bill saved $9. This month he has saved $6. How much has Bill saved in two months?
7. The Green children want to buy a yellow bird that costs $9. They have saved $7 all together. How much more do they need to save?
8. There were 43 children in one bus and 46 in another. How many children were in both busses?
9. In Sally's room at school there are 35 children. In Mary's room there are 24. How many fewer children are there in Mary's room than in Sally's?
10. Mother made 12 little cakes. She gave the children 5 of them. How many cakes did she have left?

This is the second Problem Test. How many problems did you have right? Each problem counts 10.

How Much Have You Learned?

If you miss more than one example in a row, turn to the Practice Page for that row.

Add these numbers:

								Practice Pages
1.	8	6	8	7	8	6	9	87
	8	5	9	7	7	7	9	
2.	9	3	8	6	5	4	6	87
	7	9	4	9	8	7	8	
3.	5	4	6	5	8	4	5	90
	4	1	3	4	1	3	2	
	3	6	5	4	5	4	5	
4.	66	93	78	74	85	70		86
	41	96	50	94	44	62		

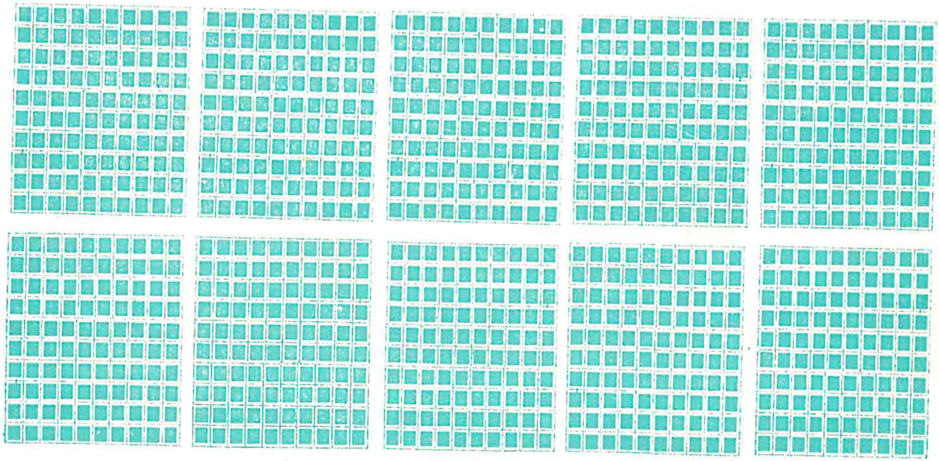
Subtract these numbers:

5.	18	13	15	17	14	11	88
	9	7	8	8	7	6	
6.	12	14	13	16	11	14	88
	9	8	4	9	3	5	
7.	108	137	169	176	125		59
	54	61	82	93	64		
8.	118	167	129	133	146		73
	92	95	36	42	94		
9.	139	158	127	145	114		86
	54	85	77	63	30		

Chapter 3

More about Numbers

1. Look at the sheets of stamps below. There are 100 stamps in each sheet. How many stamps are there in all? Count the stamps like this: 100, 200, 300, 400, . . ., . . ., . . ., . . ., . . ., . . .



2. You write 10 hundreds like this: 1000. Ten hundreds are the same as one thousand. You see that 1000 has 4 places. The place at the left of hundreds place is **thousands** place. You can read 1000 like this: 1 thousand or 10 hundred. 1 thousand = 10 hundred.

The Meaning of Numbers

1. Count by hundreds above 1000 like this: 1100, 1200, 1300, 1400, 1500, and so on. You read 1100 like this: **one thousand one hundred** or **eleven hundred.** Read 1200 in two ways. Read these numbers in two ways: 1400, 1800, 1300, 1900.

2. Miss White told the children that there are 1563 children in Hilltop School. Bill said that 1563 means 1000 + 500 + 60 + 3. Another way to tell what 1563 means is to say 1 **thousand,** 5 **hundreds,** 6 **tens,** and 3 **ones.**

3. The number 1036 means 1 thousand, 0 hundreds, 3 tens, and 6 ones. You read it **one thousand thirty-six,** or **ten hundred thirty-six,** or **ten thirty-six.** The number 1007 means 1 thousand, 0 hundreds, 0 tens, and 7 ones. You read it **one thousand seven.** Tell one other way to read 1007.

Thousands	Hundreds	Tens	Ones
1	0	3	6
1	0	0	7

4. Read this: Jane was born in 1949. Jack was born in 1948. They live at 1708 Summer Street.

Read these numbers:

5. 1453 1779 1004 1035 1661

6. 1001 1800 1596 1830 1958

Write these numbers in figures:

7. Fifteen thirty One thousand four

8. Nineteen hundred fifty Fourteen hundred

9. Write the year in which you were born.

Packing Boxes

1. The children are packing some boxes for Christmas. They packed 80 boxes yesterday. Today they will pack 75 more. How many boxes is that in all?

2. The children brought 62 toys for boys and 93 toys for girls. Were there enough toys to put one in each box? See the answer to ex. 1. (Ex. means exercise.)

3. The children wanted to put a bag of candy in each box. They had brought only 90 bags. How many more bags did they need?

Add these numbers. Check your work:

4.	73	95	61	95	84	33	96	70
	73	13	58	72	61	75	93	83
5.	94	46	72	74	52	83	94	50
	55	80	45	83	86	92	24	59
6.	67	52	93	62	82	53	65	95
	81	64	86	77	43	74	64	41
7.	92	20	47	86	71	94	36	74
	32	80	62	82	96	63	82	62

Adding Three-Place Numbers

1. **Problem** In the Lake School there are 342 children. In the Fox School there are 336 children. How many children are there in both schools?

Explanation Write 336 under 342 and add up like this:

Think, "6 ones and 2 ones are 8 ones." Write 8 in ones place.

Think, "3 tens and 4 tens are 7 tens." Write 7 in tens place.

Think, "3 hundreds and 3 hundreds are 6 hundreds." Write 6 in hundreds place.

The sum is 678. There are 678 children in both schools. Check the work by adding down.

Hundreds	Tens	Ones
3	4	2
3	3	6
6	7	8

Add the numbers. Check your work:

2.	136 260	728 131	343 503	615 370	320 512	226 373
3.	131 104	150 610	231 245	341 658	121 352	642 152
4.	242 432	365 124	735 203	332 263	243 614	410 404
5.	534 221	805 104	446 351	520 303	241 123	512 174

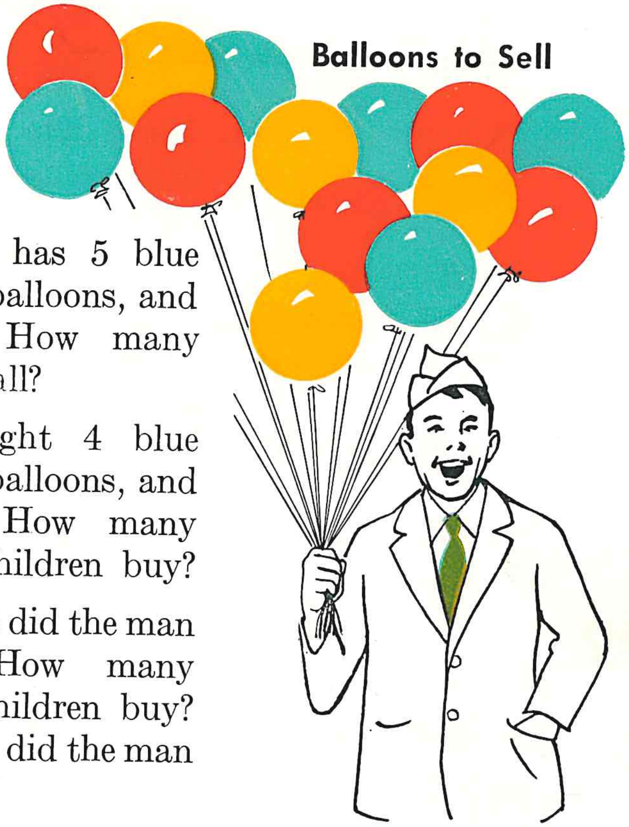
6. Add 460 to each number below:

123 336 507 425 216 324

7. Add 302 to each number in ex. 6.

More Practice. See ⑫ on page 316.

Balloons to Sell



1. The balloon man has 5 blue balloons, 4 yellow balloons, and 5 red balloons. How many balloons has he in all?

2. The children bought 4 blue balloons, 2 yellow balloons, and 3 red balloons. How many balloons did the children buy?

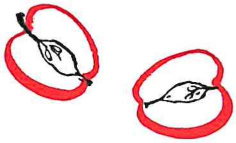
3. How many balloons did the man have at first? How many balloons did the children buy? How many balloons did the man have left?

Add. Begin at the bottom of each column and add up. Check your work by adding down:

4.	8	2	6	6	8	7	6	7	7
	1	1	2	3	1	2	1	2	2
	3	8	3	5	4	7	5	3	2
5.	5	5	2	8	4	5	7	4	6
	2	1	6	1	3	2	2	5	3
	5	7	3	6	5	7	6	2	4
6.	4	7	2	3	5	4	4	6	7
	2	1	5	2	1	0	3	2	2
	7	3	4	6	8	9	4	7	5

More Practice. See ⑬ on page 317.

Learning about One Half

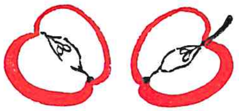


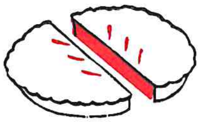
1. Mary cuts an apple into 2 pieces of the same size. Each piece is **one half** of the whole apple. There are 2 **halves** in a whole apple.

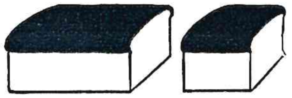
2. Jack has a candy bar. He cuts it into 2 pieces of the same size. These 2 pieces are **equal.** Equal means the same in size. Each piece is one half of the whole candy bar. You write one half like this: $\frac{1}{2}$.

3. How many halves are there in a whole apple? How many halves are there in a whole candy bar? How many halves are there in a whole pie? How many halves are there in any whole thing?

4. Is the apple cut into halves? Is the pie cut into halves? Tell why the two parts of the cake are **not** halves.

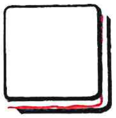






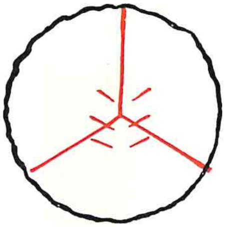
Both halves of anything must be the same size.

5. Here is a picture of a sandwich. Draw two sandwiches like this on your paper. Draw a line across one sandwich so that each part is one half of the sandwich. Draw a line across the other sandwich so that the 2 pieces are not halves.

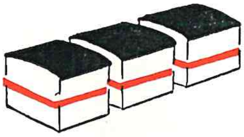


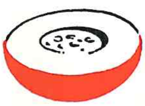
Thirds and Fourths

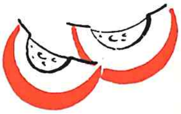
1. Mother made a small pie for Jane. Jane cut the pie into 3 equal pieces. Each piece is **one third** of the pie. You write one third like this: $\frac{1}{3}$. How many thirds are there in a whole pie?

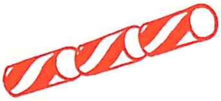


2. Which of these things are cut into **thirds?**

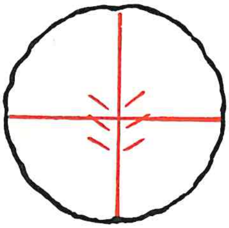








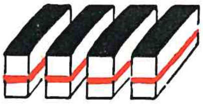
3. This pie is cut into 4 equal pieces. Each piece is **one fourth** or **one quarter** of the pie. You write one fourth like this: $\frac{1}{4}$. How many **fourths** are there in a whole pie?

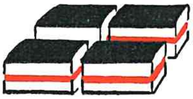


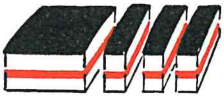
4. How many thirds are there in one whole thing? How many fourths are there in one whole thing?

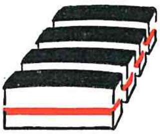
5. Draw two sandwiches as you did on page 98. Draw lines on each one to make 4 equal pieces. Make the pieces of the second sandwich a different shape from those of the first sandwich.

6. Which of these cakes are divided into fourths?



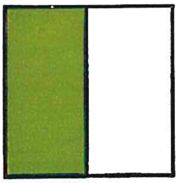






Halves, Thirds, and Fourths

1. Tell what part of each picture is green: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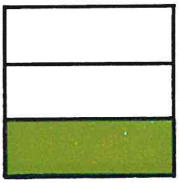
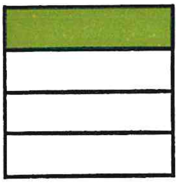
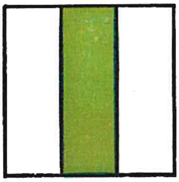

B


C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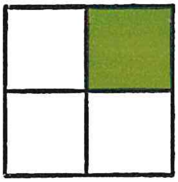
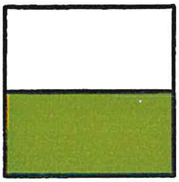

E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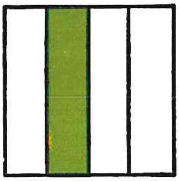
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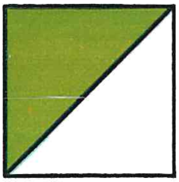
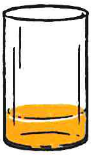
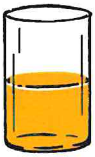
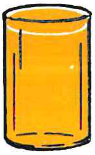
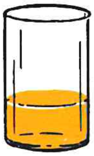

H

2. Which glass is $\frac{1}{3}$ full? Which glass is $\frac{1}{2}$ full? Which one is $\frac{1}{4}$ full? Which one is full?









3. Take a whole sheet of paper and fold it once to show halves. Then fold it again to show fourths.

4. Can you fold the sheet of paper in another way to show halves and fourths? How many ways can you find to do it?

5. How many halves are there in a whole apple? How many halves are there in a whole sandwich?

6. How many fourths are there in a whole candy bar? How many fourths are there in a whole pie?

Practice in Subtracting

Say the answers as quickly as you can:

1.	12	14	11	15	13	11	15	11
	−7	−7	−2	−8	−5	−6	−6	−7
2.	12	14	17	16	15	11	18	12
	−6	−8	−9	−7	−9	−4	−9	−9
3.	10	11	12	17	11	14	13	11
	−7	−8	−5	−8	−9	−9	−7	−3

4. How many are 144 eggs less 60 eggs?

5. Subtract $83 from $128. How many dollars are left?

6. How much more is 156 than 94?

7. How much less is 82 than 127?

Subtract these numbers. Check your work:

8.	65	37	95	138	147	127	169
	34	24	80	97	51	77	75
9.	86	89	48	129	183	149	136
	66	41	35	86	93	63	44
10.	42	79	26	107	135	154	169
	12	59	12	32	82	90	87
11.	88	73	94	145	159	118	137
	32	41	54	95	74	54	63
12.	64	59	88	127	116	129	165
	12	30	18	36	35	42	91

More Practice. See ⑭ on page 317.

Do You Add or Subtract?

First tell whether you add or subtract. Then do the work:

1. Jim is making tickets for a circus. He has 125 tickets to make. So far he has made 70 tickets. How many more has he to make?
2. Ann made two strings of beads. On the long string she put 73 beads. On the other string she put 41 beads. How many beads in all did Ann use?
3. In his pocket Tom has 38¢. Mr. Green will pay him 50¢ for working after school. How much money will Tom have then?
4. At the picnic there were 125 children. Of this number 61 were girls. How many boys were at the picnic?
5. On a ride to Blue Lake, Jack and Alice counted cars. Jack counted 85 cars going to the lake. Alice counted 34 cars going away from the lake. How many cars did both children count?

6. Susan painted 65 Christmas cards last week. She still has 70 more cards to paint. How many Christmas cards will Susan paint all together?
7. Susan will use 40 Christmas cards and sell the rest. How many cards will Susan sell?
8. Susan has 30 stamps to put on the cards she will use. How many more stamps does Susan need for her 40 cards?

Subtracting Three-Place Numbers

1. **Problem** Tom has 655 stamps all together. He has 423 stamps of this country. The rest of his stamps are from other countries. How many stamps has Tom from other countries?

Explanation You can write the numbers in this way:

6 hundreds 5 tens 5 ones
4 hundreds 2 tens 3 ones
2 hundreds 3 tens 2 ones

How many stamps are from other countries?

Here is a short way to subtract: Think, "3 ones from 5 ones, 2 ones." Write 2 in ones place. Think, "2 tens from 5 tens, 3 tens." Write 3 in tens place. Think, "4 hundreds from 6 hundreds, 2 hundreds." Write 2 in hundreds place. The answer is 232. So 232 stamps came from other countries.

Hundreds	Tens	Ones
6	5	5
4	2	3
2	3	2

Subtract. Check your answers by adding up:

2.	753 341	964 841	868 316	786 653	782 421	596 365
3.	447 321	974 212	265 142	836 402	557 424	798 247
4.	539 324	298 134	964 350	936 621	549 142	874 633

More Practice. See ⑮ on page 317.

To the Teacher. See page 328 for the additive method of subtraction.

Subtracting Numbers

1. **Problem** There are 48 children in our room at school. 45 of them went to the picnic. How many children did not go to the picnic?

Explanation In this example you get 0 when you subtract 4 tens from 4 tens. You do not need to write 0 in the answer because there are no more numbers at the left to subtract. Only 3 children did not go to the picnic.

$$\begin{array}{r} 48 \\ 45 \\ \hline 3 \end{array}$$

2. Here are other subtraction examples to study. You should watch the places where you do not write zero:

$$\begin{array}{r} 85 \\ 82 \\ \hline 3 \end{array} \qquad \begin{array}{r} 96 \\ 4 \\ \hline 92 \end{array} \qquad \begin{array}{r} 273 \\ 51 \\ \hline 222 \end{array} \qquad \begin{array}{r} 137 \\ 3 \\ \hline 134 \end{array} \qquad \begin{array}{r} 384 \\ 371 \\ \hline 13 \end{array} \qquad \begin{array}{r} 297 \\ 292 \\ \hline 5 \end{array}$$

3. Cover the answers in ex. 2 with a paper. Then try to write the answers on the paper.

Subtract these numbers in your head:

4. $56 - 51 \qquad 89 - 80 \qquad 37 - 33 \qquad 96 - 94$

5. $75 - 70 \qquad 47 - 42 \qquad 68 - 65 \qquad 24 - 20$

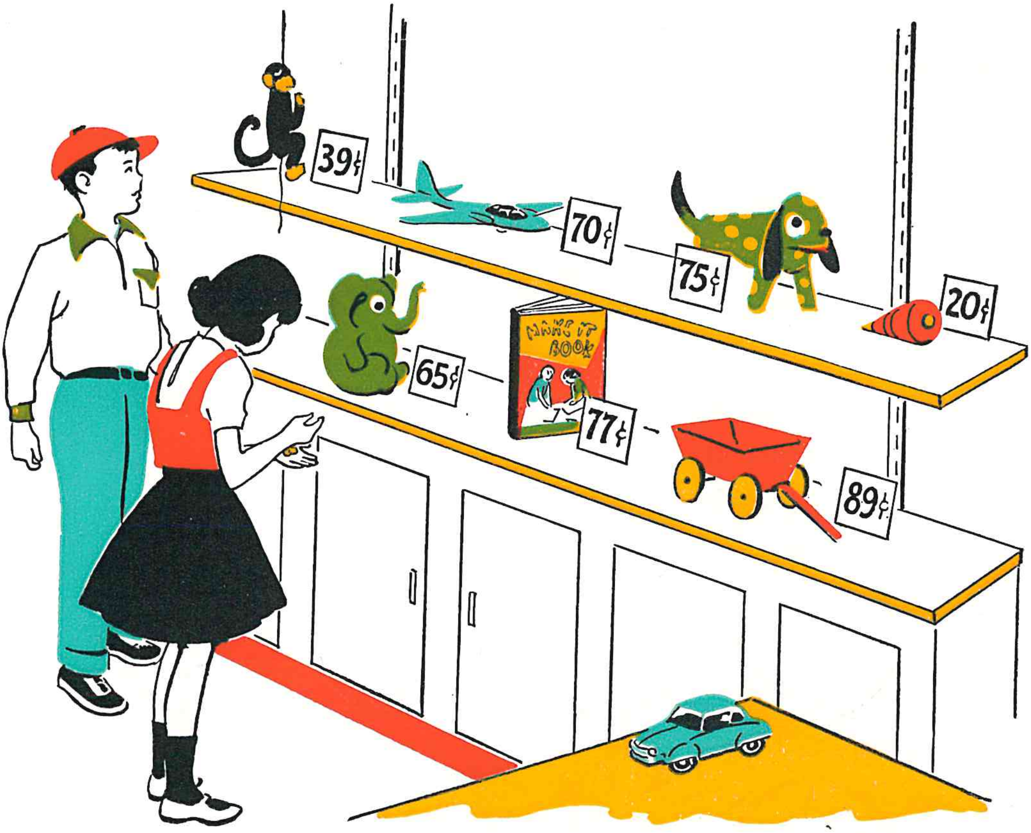
Subtract these numbers. Check by adding up:

6. $\begin{array}{r} 28 \\ 6 \\ \hline \end{array} \qquad \begin{array}{r} 88 \\ 84 \\ \hline \end{array} \qquad \begin{array}{r} 273 \\ 42 \\ \hline \end{array} \qquad \begin{array}{r} 198 \\ 7 \\ \hline \end{array} \qquad \begin{array}{r} 309 \\ 301 \\ \hline \end{array} \qquad \begin{array}{r} 473 \\ 450 \\ \hline \end{array}$

7. $\begin{array}{r} 39 \\ 32 \\ \hline \end{array} \qquad \begin{array}{r} 67 \\ 60 \\ \hline \end{array} \qquad \begin{array}{r} 619 \\ 614 \\ \hline \end{array} \qquad \begin{array}{r} 299 \\ 263 \\ \hline \end{array} \qquad \begin{array}{r} 168 \\ 161 \\ \hline \end{array} \qquad \begin{array}{r} 717 \\ 716 \\ \hline \end{array}$

More Practice. See ⑯ on page 318.

To the Teacher. See page 328 for the additive method of subtraction.

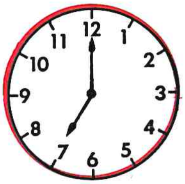


Has Each Child Enough Money?

Answer "Yes" or "No":

1. Bill has a half dollar. Can he buy the wagon?
2. Peter has a quarter. Can he buy the top?
3. Susan has 8 dimes. Can she buy the dog?
4. Ann has a dollar. Can she buy the book?
5. Mary has 4 dimes. Can she buy the monkey?
6. Jack has 9 dimes. Can he buy the airplane?
7. Dick has 5 dimes and a quarter. Can he buy the elephant?

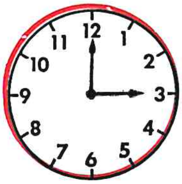
How to Tell Time

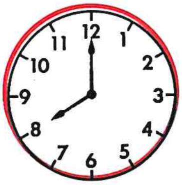


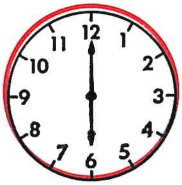
1. Betty is learning to tell time. This clock says 7 **o'clock.** The long hand points to 12. The long hand is the **minute hand.** The short hand points to 7. The short hand is the **hour hand.**

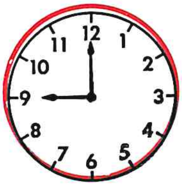
2. When the long hand points to 12, the short hand tells what hour it is.

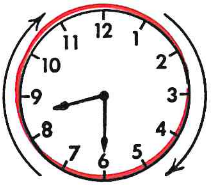
3. Tell the time by each of these clocks:





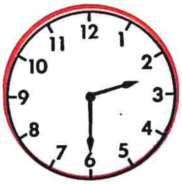


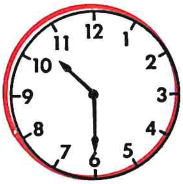


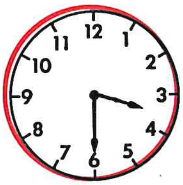


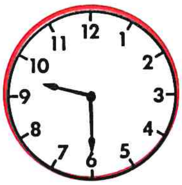
4. This clock says it is **half past** 8. The short hand is halfway between 8 and 9. The long hand is at 6. When it is half past 8, you see that the long hand has gone halfway around the clock. The arrows show the way the hands go around the clock.

5. Tell the time by each of these clocks:

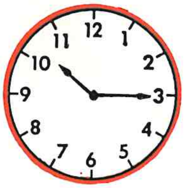








6. Tell where the long hand and the short hand of the clock point at half past 1; at half past 7; at half past 4; at half past 12.



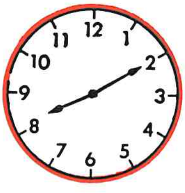
1. Betty goes for her music lesson at a **quarter after** 10 on Saturdays. This is the way the clock looks at a quarter after 10. The short hand is a little past 10. The long hand points to 3.

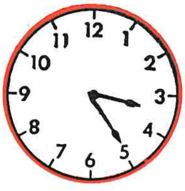
2. You see a little mark near each number on the clock. It takes the long hand 5 minutes to move from one mark to the next. How many minutes does it take the long hand to move from 12 to 1? from 1 to 2? from 2 to 3? from 12 to 3? from 12 to 4? from 12 to 9?

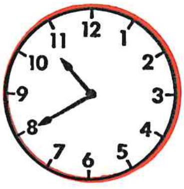
3. You see that it takes the long hand 15 minutes to go from 12 to 3. The clock above says 15 minutes past 10. 15 minutes past 10 is the same as a quarter after 10 or a quarter past 10.

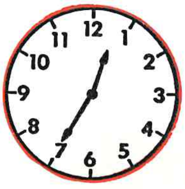
4. Beginning at 1, point to each number around the clock and count the minutes by 5's. How many minutes make a half hour? an hour? How many minutes after the hour is it when the long hand points to 5? to 8? to 11?

5. Tell the time by each of these clocks. The first clock says 10 minutes past 8.

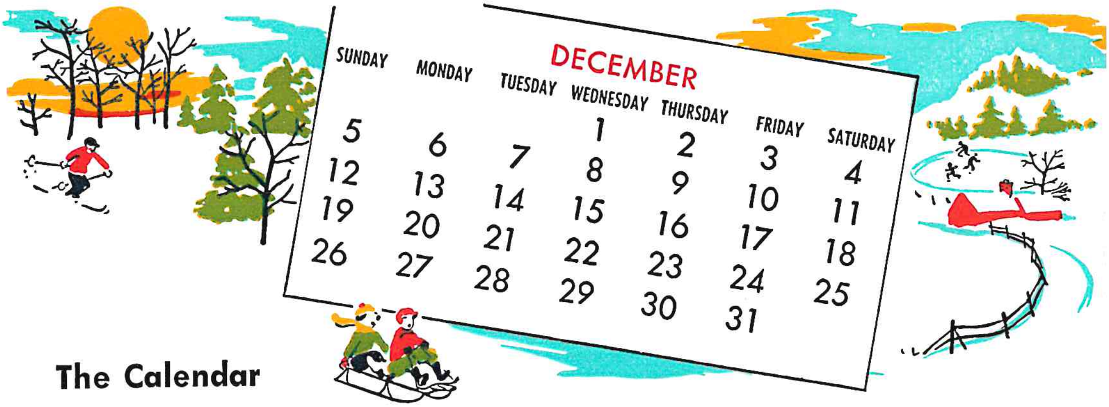








The time on the third clock is sometimes read "20 minutes to 11." How is the time on the last clock sometimes read?

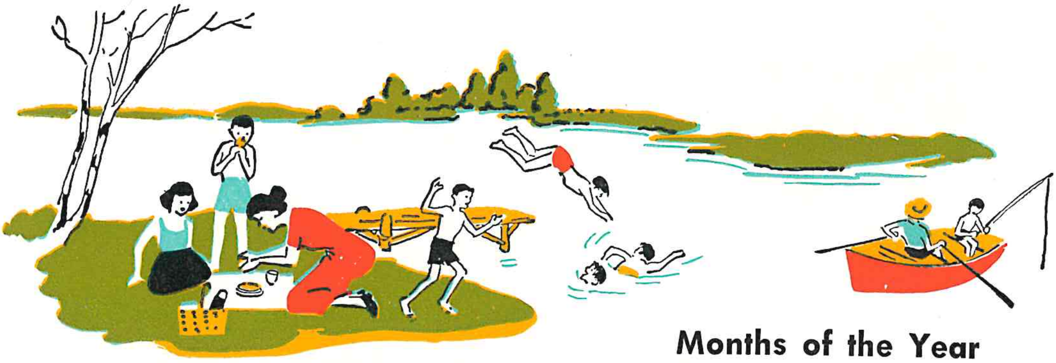


DECEMBER

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

The Calendar

1. This is a calendar for the month of December. Read all the numbers on it. How many days are there in the month of December?
2. The days of the week are Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday. How many days are there in a week?
3. What is the name of the first day of the week? the second day? the last day?
4. What is the first day of the school week? the last day of the school week?
5. What is the name of today? of yesterday?
6. Look at the calendar above. On what day of the week does the month of December begin on this calendar? On what day does it end?
7. On what day of the week does December 7 come? December 15? December 25? Do you know what day December 25 is?



Months of the Year

These are the names of the months of the year. Read the names from 1 to 12:

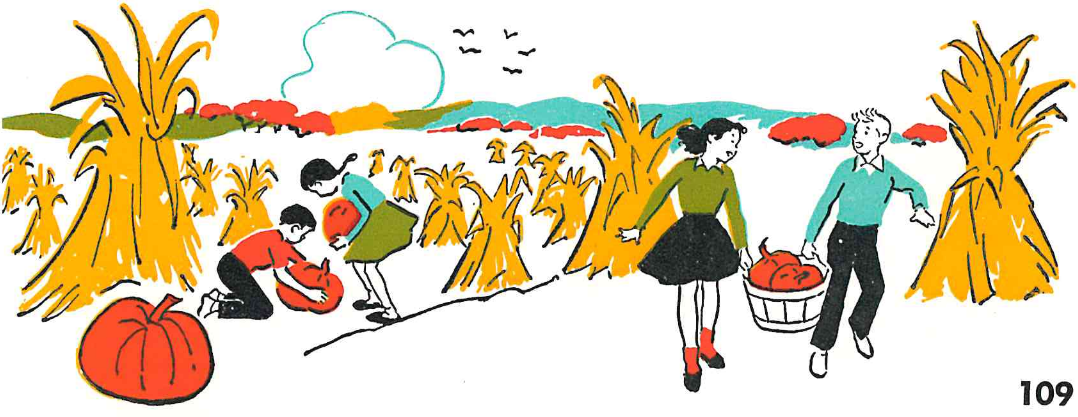
1. January
2. February
3. March
4. April
5. May
6. June
7. July
8. August
9. September
10. October
11. November
12. December

1. What is the name of the first month of the year? the second month? the sixth month? the last month?

2. In what month of the year is your birthday? In what month of the year is Christmas?

3. The four parts of the year are spring, summer, fall, and winter. The month of May comes in the spring. In which part of the year does January come? In which part of the year does July 4 come? In which part of the year does Thanksgiving come?

4. On pages 108 and 109, which picture shows spring? Which shows summer? fall? winter?



Adding by Endings

1. Jack spent 5¢ for a crayon and 3¢ for a pencil. How much did he spend in all?

2. Susan spent 15¢ for paper and 3¢ for a pencil. How much did Susan spend?

▶ When you add 15 and 3 you are adding a one-place number to a two-place number. This is called **adding by endings.** You can do the work in your head. If 3 is added to a number ending in 5, the answer ends in . . . How much is 45 + 3?

3. How much is 25¢ + 3¢? How much is 85¢ + 3¢?

Study the pairs of examples below. Then say the sums:

4.	4	14	2	42	3	63	6	26
	5	5	7	7	4	4	2	2

Say the sums. They will help you do column addition:

5. 13 + 3 = 53 + 3 = 23 + 3 = 73 + 3 =

6. 16 + 1 = 86 + 1 = 46 + 1 = 36 + 1 =

7. 15 + 4 = 35 + 4 = 65 + 4 = 95 + 4 =

8. 22 + 4 = 92 + 4 = 52 + 4 = 42 + 4 =

9. 34 + 3 = 64 + 3 = 14 + 3 = 54 + 3 =

10.	51	24	70	46	35	82	53	97
	7	5	8	3	2	5	6	2
11.	85	54	36	72	16	21	92	83
	4	5	2	7	3	7	5	3
12.	17	60	25	43	62	45	56	23
	2	8	2	4	4	3	1	6

Adding by Endings

Say the answers to these:

1. 12 and 7   55 and 3   21 + 5   56 + 3

2. 24 and 5   13 and 6   63 + 6   25 + 4

3. 41 and 8   15 and 2   14 + 4   92 + 2

4. 63 and 2   17 and 1   50 + 8   71 + 4

5. 50 and 9   66 and 3   71 + 7   24 + 5

6. 83 and 4   16 and 2   22 + 5   33 + 6

7. Peter had 14 marbles and Jack gave him 5 more. How many marbles has Peter now?

8. Alice spent 15¢ for stamps and 3¢ for a pencil. How much did Alice spend in all?

9. Bill bought crayons for 12¢ and a pencil for 3¢. How much did he spend in all?

10. Tom spent 13¢ and Dick spent 4¢. How much did both boys spend?

11. Mary has 10 books and Peggy has 6 books. How many books have the girls all together?

Add 1 to each of these numbers:

12. 45   85   35   95   23   53   83   63

13. 41   81   21   51   16   76   26   46

14. 34   94   54   84   32   72   52   12

15. 65   43   86   24   82   90   71   22

16. Add 2 to each number in ex. 12–15. Add 3 to each number in ex. 12–15.

Column Addition

1. **Problem** Find the sum of 3¢, 9¢, and 5¢.

Explanation Write the numbers in a column and add up. Think, "5 + 9 = 14." Then add 14 and 3. The sum is 17¢. Check by adding down. Think, "3 + 9 = 12. 12 + 5 = 17."

$$\begin{array}{r}3\\9\\\underline{5}\\17\end{array}$$

2. Ann had 9¢. She found 2¢ and her father gave her 5¢. How many cents in all did Ann have then?

3. Bill found 7 eggs in the hen house, 5 eggs in the barn, and 3 eggs in the grass. How many eggs did Bill find all together?

Add. Begin at the bottom of each column and add up. Check your work by adding down:

4.	2	5	4	9	7	2	4	6	4
	8	7	8	5	2	9	7	6	6
	7	7	4	5	9	3	5	4	9
5.	8	5	8	9	1	2	8	7	6
	6	6	3	2	9	6	7	9	4
	5	8	8	8	4	9	4	3	7
6.	5	7	2	2	4	6	5	3	2
	8	6	8	9	8	5	6	7	6
	4	6	9	5	6	6	7	6	7

More Practice. See ⑰ on page 318.

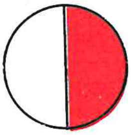
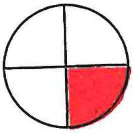
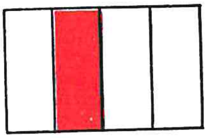
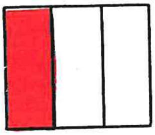
Do you ever have snow where you live? Can you skate on the ice? These problems tell about things the children do where there is snow and ice.

1. Jack cleans the snow off sidewalks in winter. Today Mr. Strong paid him 50¢. Miss White paid him 45¢. How much money did Jack earn all together?
2. Mary went skating yesterday. She stayed on the ice from 4 o'clock until half past 5. How long did Mary stay on the ice? Look at a clock to find the answer.
3. The boys and girls had fun throwing snowballs. Bill made 5 snowballs, Bob made 3, and Joe made 6. How many snowballs did the boys make?
4. Susan made 4 snowballs, Betty made 5, and Sally made 3. How many snowballs did the girls make?
5. How many are 7 snowballs and 8 snowballs?
6. Ann wants to buy a skating cap that costs 98¢. She has 75¢. How much more money does Ann need?
7. After school there were 15 children on the skating pond. Only 9 children were skating. The rest were making snow men. How many children were making snow men?

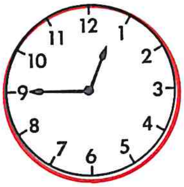
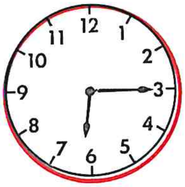
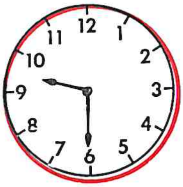
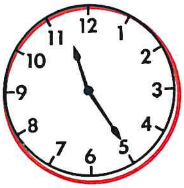
Oral Practice

Tell the answers:

1. 10 + 6 = 32 + 6 = 28 + 1 = 16 − 8 =
2. 15 − 9 = 45 + 3 = 13 + 4 = 14 + 4 =
3. 24 + 3 = 14 − 8 = 51 + 7 = 12 − 5 =
4. 17 − 8 = 20 + 9 = 11 − 8 = 46 + 3 =
5. Tell what part of each picture is red:

6. How many dimes are there in a dollar?
7. How many nickels make a dime? a half dollar?
8. How many quarters make a dollar?
9. Tell what number means 5 hundreds, 0 tens, and 7 ones; 9 hundreds, 6 tens, and 0 ones.
10. Read these numbers: 258, 700, 1958, 1700.
11. Tell the time by each clock:

Tell the answers:

12.	3	7	2	1	4	3	4	2	2
	4	0	1	2	2	6	3	6	5
	1	2	3	5	4	0	2	1	3

Column Addition

Add these numbers and check your work:

1.	4	8	6	7	3	2	2	1	3
	1	3	9	0	3	9	2	2	4
	9	6	1	9	8	6	7	8	4
2.	9	8	5	6	1	9	5	6	2
	2	2	3	5	9	6	5	6	7
	1	6	3	3	8	4	4	1	6
3.	8	6	8	6	8	2	5	8	3
	1	2	4	1	7	7	8	0	8
	5	5	4	8	1	3	2	6	7
4.	7	4	5	7	3	9	2	8	2
	3	3	2	2	6	8	8	9	8
	5	5	9	4	6	2	3	2	8

More Practice. See ⑱ on page 318.

Do You Know the Right Word?

Read each exercise below and then tell the word that goes in each space:

5. One of the two equal parts of a pie is called . . .

6. The number 38 means 3 . . . and 8 . . .

7. The number 83 means 8 . . . and 3 . . .

8. Another name for penny is . . .

9. When you take 7 from 10 you are . . .

10. When you say that 4 and 6 make 10 you are . . .

11. The answer to an addition example is the . . .

The Meaning of Addition

1. Yesterday Ann sold 12 tickets. Today she sold 15. How many tickets did Ann sell **both** days?

2. Bill spent 5¢ for candy, 7¢ for ice cream, and 7¢ for peanuts. How much did **all** these things cost?

3. Mother picked 6 red roses, 8 yellow roses, and 4 white roses. How many roses did she pick **in all?**

4. Tom earned 40¢. His mother gave him 25¢. How much did Tom have then?

5. The two school busses carried 33 children and 35 children. How many children did the busses carry **all together?**

6. Mother baked cupcakes in 3 pans. She had 6 cakes in one pan, 6 in another, and 4 in another. How many cupcakes did Mother bake?

In the **addition** problems above, you put two or more groups together to make one large group, called the **sum.** The sum is larger than any one of the groups added.

Words like **both, all, in all,** and **all together** help you to know that you must add to find the answer. Which problems do not use these words?

In an addition problem you put together numbers to find their sum. The sum is larger than any of the numbers added.

Mixed Practice

Add these numbers. Check your work:

1.	1	4	3	2	9	4	2	4	2
	2	0	9	5	2	8	1	0	6
	9	9	5	9	6	3	7	6	6

2.	53	70	26	16	303	124	153
	42	42	33	60	281	574	316

3.	84	44	77	20	472	351	332
	63	21	91	45	525	338	542

4. Add 4 to each of these numbers:

12 33 61 90 45 14 20 73

5. Add 2 to each number in ex. 4. Add 3 to each.

6. Write the numbers by 10's from 260 to 300.

7. Write the numbers by 100's from 300 to 1000.

Subtract these numbers. Check your work:

8.	86	97	67	79	692	983	657
	23	21	65	33	292	582	156

9.	39	94	88	56	157	581	139
	6	82	63	25	66	500	44

10. Subtract 345 from 778. Take 340 from 569.

11. From 137 take 92. From 498 subtract 374.

Write these numbers in figures:

12. six hundred ten fifteen hundred

13. nine hundred fifty two hundred ninety-one

Chapter Review

1. Write **four hundred thirty-six** in figures.

2. Write **twelve hundred eighty-five** in figures.

3. Write in figures: **one half; one fourth.**

4. Write the number of cents in 8 nickels.

5. Write the number of cents in 6 dimes.

6. Count by 1's from 89 to 109; from 218 to 229.

7. Count by 10's from 70 to 110; from 650 to 690.

8. Count by 5's from 125 to 160; from 300 to 330.

9. Count by 100's from 1400 to 1900.

10. Add 5 to each number: 13, 82, 41, 80, 34, 62.

11. Add 10 to each number: 15, 37, 29, 86, 52, 78.

Find these sums and check your work:

12.	5	2	7	7	5	5	4	7	3
	7	8	3	4	3	5	8	6	8
	6	5	9	8	9	9	2	5	4

13.	3	8	9	5	3	3	4	7	6
	9	5	2	9	8	8	6	9	4
	2	6	8	3	3	8	7	2	9

14.	57	64	53	80	146	283	326
	32	15	24	90	23	413	250

Subtract these numbers and check your work:

15.	89	67	96	75	174	347	984
	81	22	66	34	80	125	754

A Problem Test

This is the third Problem Test. Try to have all your problems right. Each problem counts 10.

1. Bob caught 12 fish and Dick caught 7 fish. How many more fish did Bob catch than Dick?
2. Susan picked up 7 yellow leaves, 6 brown leaves, and 5 red leaves. How many leaves did she pick up?
3. There are 35 children in Miss Wood's room. 20 of them are girls. How many boys are there?
4. After school today Ann earned 50¢. Last Saturday she earned 75¢. How much less did Ann earn today than she earned last Saturday?
5. Bill paid 50¢ for a new game and 40¢ for a book. How much did he pay for both things?
6. Mary wants to sell 250 Christmas cards. She has sold 110 cards so far. How many more cards does Mary need to sell?
7. Jack had 50¢. He spent 30¢ to go to the movies. How much money did he have left?
8. Betty had 90 pretty buttons in a box. Today Aunt Jane gave her 45 more buttons. How many buttons all together has Betty now?
9. This afternoon 8 girls, 9 boys, and 2 teachers will go to Grand Park for a picnic. How many people will go to the picnic?
10. Joe bought 275 stamps to put in his book. Now he has put 150 of them in the book. How many stamps does he still have to put in the book?

How Much Have You Learned?

If you miss more than one example in a row, turn to the Practice Pages for that row.

Add these numbers and check your work:

							Practice Pages
1.	76 13	15 42	63 22	76 91	37 80	53 84	95
2.	35 4	24 3	41 8	67 2	90 7	52 6	110
3.	542 347	221 355	303 643	124 745	324 522		96
4.	7 1 3	9 0 5	8 1 6	4 5 3	6 2 4	2 7 2	97
5.	8 4 7	5 7 5	4 4 9	3 8 6	7 2 8	6 7 4	112 115

Subtract these numbers and check your work:

6.	79 36	58 22	96 43	45 14	89 42	67 52	37
7.	139 62	166 70	148 53	187 91	159 75		101
8.	734 513	528 316	985 350	674 262	349 207		103
9.	648 641	367 14	586 184	357 352	978 907		104

Chapter 4

A Birthday Party

1. On Ann's birthday the children had a party. There were 12 boys and 13 girls at the party. How many children in all were at the party?

2. There were funny paper hats for the children. There were 15 clown hats and 14 cowboy hats. Were there enough hats for each girl and each boy to have one?

3. A large birthday cake was cut into 32 pieces. Another cake was cut into 16 pieces. How many pieces of cake were there all together?

4. The children played games. Ten children played games on the grass. The other children played games in the house. How many of the 25 children played games in the house?

Adding Three Numbers

1. **Problem** Peter feeds his father's chickens. There are 32 white chickens, 24 black chickens, and 33 brown chickens. How many chickens does Peter feed?

   Explanation Add up. Think "3, 7, 9." Write 9 in ones place. Then think "3, 5, 8." Write 8 in tens place. The sum is 89. Peter feeds 89 chickens. To check the work, begin at the top and add down.

$$\begin{array}{r}32\\24\\\underline{33}\\89\end{array}$$

2. Three days this week Peter earned 10¢, 15¢, and 40¢ working after school. How many cents did Peter earn all together?

3. Alice earned 25¢ on Saturday, 30¢ yesterday, and 20¢ today. How many cents in all did Alice earn in the three days?

Add these numbers and check your work:

4.	13	51	12	20	25	30	41	36
	30	26	34	36	40	13	32	32
	43	21	23	42	13	44	14	30

5.	41	14	43	32	21	44	30	21
	12	22	22	10	11	21	53	47
	22	53	14	47	52	33	12	21

6.	34	57	17	46	31	26	12	25
	24	20	51	30	24	21	34	21
	31	22	21	13	12	51	50	22

7.	55	41	56	20	24	65	11	10
	13	30	12	43	40	13	55	16
	10	25	31	14	24	21	21	42

1. Problem Last week Peter sold eggs for his father. He sold 72 eggs, 12 eggs, and 84 eggs. How many eggs did Peter sell last week?

Explanation Add up. Think "4, 6, 8." Write 8 in ones place. Then think "8, 9, 16." You see that the sum of the tens is 16 tens, or 1 hundred and 6 tens. Write 1 in hundreds place and 6 in tens place. The answer is 168. Peter sold 168 eggs. Check the work by adding down.

72
12
84
168

Add. Begin at the bottom of each column and add up. Check the work by adding down:

2.	42	54	53	40	44	68	73	57
	12	43	34	22	44	10	13	10
	65	21	21	45	30	61	62	81
3.	74	46	73	25	21	30	64	52
	31	22	52	72	86	62	72	15
	32	61	42	22	91	27	23	72
4.	33	15	62	65	53	60	91	73
	40	43	24	10	31	16	52	21
	44	50	52	73	55	41	12	52
5.	54	75	74	27	92	40	81	83
	30	20	23	10	64	33	10	41
	45	32	62	72	32	74	18	12

6. For a school party the children brought 72 sugar cookies, 60 nut cookies, and 36 orange cookies. How many cookies did they bring?

7. At a picnic there were 42 boys, 36 girls, and 10 mothers. How many people were at the picnic?

Adding by Endings

1. Betty paid 6¢ for lollipops and 8¢ for stick candy. How much did she pay all together?

2. Tom paid 16¢ for paint and 8¢ for paper. How much did Tom spend in all?

3. In ex. 2 you added a two-place number and a one-place number. There is a short way to get the answer. Study the sums below:

$$\begin{array}{r}6\\8\\\hline 14\end{array}\quad\begin{array}{r}16\\8\\\hline 24\end{array}\quad\begin{array}{r}26\\8\\\hline 34\end{array}\quad\begin{array}{r}76\\8\\\hline 84\end{array}\quad\begin{array}{r}46\\8\\\hline 54\end{array}\quad\begin{array}{r}86\\8\\\hline 94\end{array}\quad\begin{array}{r}56\\8\\\hline 64\end{array}\quad\begin{array}{r}36\\8\\\hline 44\end{array}$$

All the sums above end in 4 because the sum of 6 and 8, which is 14, ends in 4. The tens figure of each sum is 1 more than the tens figure of the two-place number because 6 + 8 is more than 9.

4. **Problem** How many are 59 and 8? Find the sum of these two numbers the short way.

Explanation Think, "The sum ends in 7 because the sum of 9 and 8 ends in 7. The tens figure of the sum is 1 more than 5, which is 6, because 9 + 8 is more than 9. 67 is the sum."

$$\begin{array}{r}59\\8\\\hline 67\end{array}$$

Add these in your head. Say only the answers:

5. $\begin{array}{r}9\\4\\\hline\end{array}\quad\begin{array}{r}29\\4\\\hline\end{array}\quad\begin{array}{r}59\\4\\\hline\end{array}\quad\begin{array}{r}69\\4\\\hline\end{array}\quad\begin{array}{r}6\\6\\\hline\end{array}\quad\begin{array}{r}36\\6\\\hline\end{array}\quad\begin{array}{r}76\\6\\\hline\end{array}\quad\begin{array}{r}46\\6\\\hline\end{array}$

6. $\begin{array}{r}7\\8\\\hline\end{array}\quad\begin{array}{r}47\\8\\\hline\end{array}\quad\begin{array}{r}17\\8\\\hline\end{array}\quad\begin{array}{r}67\\8\\\hline\end{array}\quad\begin{array}{r}5\\6\\\hline\end{array}\quad\begin{array}{r}35\\6\\\hline\end{array}\quad\begin{array}{r}85\\6\\\hline\end{array}\quad\begin{array}{r}25\\6\\\hline\end{array}$

More Practice

Add these numbers in your head. Give only answers:

1.	34	54	67	77	22	82	18	48
	6	6	4	4	9	9	7	7
2.	37	67	25	45	46	86	79	59
	9	9	8	8	5	5	3	3
3.	8	8	4	4	9	9	7	7
	18	48	29	59	64	84	25	35
4.	3	3	6	6	5	5	2	2
	49	69	54	74	17	57	68	78

Find the sums:

5. 27 + 6 37 + 6 6 + 57 6 + 87

6. 14 + 8 24 + 8 8 + 44 8 + 74

7. 35 + 7 85 + 7 7 + 25 7 + 45

Add 4 to each number below. Then do the examples again, adding 5 to each number. Do them again, adding 8, 6, 7, 9, 3, in turn, to each number. Do the work in your head:

8. 31 81 21 51 14 34 64 74

9. 80 60 50 20 75 15 35 65

10. 72 12 52 32 18 48 28 78

11. 56 26 86 46 49 29 19 89

12. 17 47 67 57 83 63 43 13

13. 38 88 58 68 16 76 36 66

14. 44 73 27 39 45 62 40 71

What Are Their Scores?

1. Bill is playing a game. He has 4 rings to throw. He throws one over 6, another over 4, a third over 6, and the last one over 5. To find his score, Bill writes the numbers as shown at the right. Then he adds up, thinking "5, 11, 15, 21." He checks his answer by adding down. He thinks "6, 10, 16, 21." Bill gets 21 each time he adds. His score is 21.

6
4
6
5
21

2. Susan throws one ring over 5, another over 7, a third over 6, and the last one over 5. Find her score.

Find the scores the other children made:

3.	5	0	4	9	5	6	7
	4	4	0	4	6	7	9
	5	9	0	0	8	4	0
	8	8	9	9	4	5	4

4.	9	6	5	8	4	7	0	9	6
	2	3	9	0	4	2	6	1	4
	7	6	6	7	3	0	9	2	8
	4	8	2	5	9	9	9	9	5

5.	6	7	9	3	8
	5	3	4	7	4
	6	0	0	3	5
	8	8	8	8	7

6.	8	7	5	2	4
	4	5	5	9	0
	0	4	8	4	9
	5	4	4	8	5

More Practice. See ⑲ on page 319.

Problems and Practice

1. How much less than $250 is $140?
2. How much more must be put with $342 to make $588?
3. How many more than 144 flowers are 165 flowers?

Subtract these numbers and check your work:

4.	69	93	178	148	107	156
	17	80	91	67	31	66
5.	84	97	116	155	162	128
	63	42	74	83	70	54
6.	76	35	138	179	149	186
	30	24	82	85	59	95

7. Take fifty-two from eighty-eight.
8. Subtract sixty-five from ninety-six.
9. How much less than thirty-nine is fifteen?
10. How much more than seventeen is fifty-eight?

Subtract these numbers and check your work:

11.	55	76	389	447	446	789
	25	63	156	307	142	530
12.	98	47	578	596	919	542
	77	20	456	182	105	212
13.	88	79	864	789	687	291
	28	32	142	404	556	121
14.	90	99	835	576	697	785
	10	63	431	343	131	230

How Many Are Left?

1. To **subtract** means to **take away** a number of things from a larger number of the same things. When you subtract you find how many things are left.
2. There are many words that tell you that something must be taken away. Words like **lost, ate, sold, gave away, broke, ran away,** and **carried away** are words of this kind. Can you think of any more words that mean take away?
3. Read each problem with care before you start to work it. If you find a word that means something is taken away, you should subtract. Look for such words in the problems below.
4. Bill had 10 marbles. He lost 2 of them. How many marbles did he have left?
5. Ann bought 6 cookies. She ate 2 cookies. How many cookies did she have left?

6. Tom made 8 bird houses. He sold 6 of them to the other boys and girls. How many bird houses did Tom have then?
7. Mother made 24 nut cookies. She gave the children 10 cookies for their party. How many cookies did Mother still have?
8. Last year Mary had 36 balls for the Christmas tree. Joe broke 3 balls when he took down the tree. How many Christmas tree balls does Mary have now?
9. Our teacher had 60 sheets of drawing paper. The boys and girls used 40 sheets of it. How many sheets of drawing paper were left?

10. Jack had 9 rabbits. Last week 2 rabbits ran away. How many rabbits does Jack still have?

11. Peggy put 12 pieces of bread under a tree. The birds carried away 8 pieces. How many pieces were left under the tree?

12. Mother has enough milk to fill 4 glasses. She wants Peter to drink 3 glasses of milk today. How many glasses of milk will be left?

13. Betty had 24 paper cups. She took them on a picnic and 10 cups were used. How many cups were left?

14. Susan saw 16 birds in a tree. Then 9 birds flew away. How many birds were left in the tree?

15. Mother saw 28 yellow flowers in her garden. She picked 12 of them. How many yellow flowers were left in Mother's garden?

16. Make up a good subtraction problem about balloons. Use the word **broke** in your problem and the numbers 12 and 3.

17. Make up a good subtraction problem about pennies. Use the word **spent** in your problem and the numbers 17 and 8.

18. Make up a good subtraction problem about candles on a birthday cake. Use the words **blew out** and the numbers 9 and 7.

If you know how many things there were at first and how many were taken away, you subtract to find how many are left.

Flowers to Sell

The children are going to sell flowers to earn money. They will buy new books for the school library. The girls are putting flowers in bunches. Dick and Bill picked the flowers for the girls.

1. Ann made a bunch of flowers with 6 yellow flowers, 4 white flowers, and 6 blue flowers. How many flowers did Ann put in that bunch?
2. Susan made a red, white, and blue bunch. She used 6 red flowers, 6 white flowers, and 6 blue flowers. How many flowers did Susan use all together?
3. Betty is using 8 orange flowers, 6 blue flowers, and 5 white flowers for a bunch. How many flowers in all will Betty put in that bunch?
4. Alice's mother asked Alice to make her a bunch of flowers. She wanted 6 white flowers, 6 yellow flowers, 3 blue flowers, and 3 orange flowers. How many flowers will be in the bunch for Alice's mother?

5. Peggy made a pretty bunch of flowers. She used 6 large yellow flowers, 6 small yellow flowers, 3 white flowers, and 4 blue flowers. How many flowers did Peggy put in that bunch?

6. Dick picked 72 flowers and Bill picked 96. How many flowers did both boys pick? How many more flowers did Bill pick than Dick?

Add these numbers. Check your work:

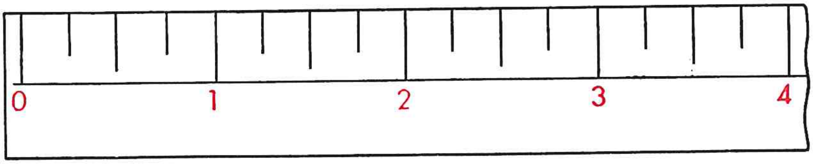
7.	8	5	7	5	8	7	7	9	6
	5	3	8	4	9	7	7	4	8
	4	6	6	8	5	5	3	6	7

8.	2	4	4	2	8	3	5	6	7
	3	3	4	4	5	8	2	1	2
	6	7	5	5	6	4	7	8	4
	5	8	6	4	3	7	6	5	3

Foot and Inch

1. The children are making Christmas toys of wood. Jack is measuring a board to mark the place to saw. He is using a ruler. He wants to make the board 10 inches long. Jack's ruler is 12 inches long.

2. This picture shows part of a foot ruler. This part



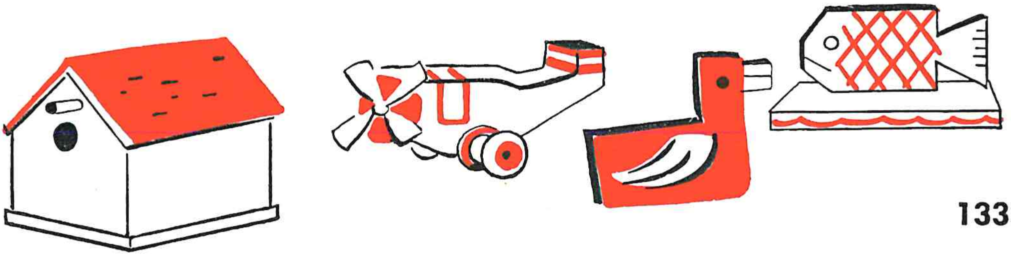
of the ruler shows 4 inches. An inch is the part from one number to the next. Do you know how many inches there are on a foot ruler?

A foot ruler is 12 inches long.

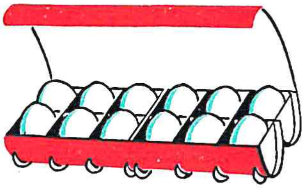
3. On the blackboard draw a line you think is 1 foot long. Do not use a ruler. Measure your line with your ruler to see how near you came to 1 foot.

Use a foot ruler for these exercises:

1. Look at the lines above. Try to tell how many inches long each line is. Then measure each one with your ruler. How many of your guesses were right?
2. Ask a friend to draw 3 different lines on paper. Then try to guess how long each one is. Write your answer near each line. If your answers were wrong, ask another friend to draw lines for you. Try again.
3. How many inches long is your pencil? Is it more or less than 1 foot long?
4. Look for something in the room that you think is a little longer than 1 foot. Can you find three things a little longer than 1 foot? What are they?
5. Things a little longer than 1 foot are often measured in feet and inches. On the blackboard draw a line that you know is a little longer than 1 foot. Measure it in feet and inches.
6. Look at the table in your room at school. Is it longer than 1 foot? Is it longer than 2 feet? Measure the table in feet and inches. How many feet and inches long is it? How many feet and inches wide is it?



Learning about Dozen



1. Count the eggs in the box. How many eggs are there? This box holds a **dozen** eggs. How many eggs are there in 1 dozen?
2. Count the little cakes in the pan. How many cakes are there? Does the pan hold 1 dozen cakes?

12 things = 1 dozen

3. Mother bought a dozen red roses and a dozen white roses. How many roses did Mother buy in all?
4. Mother gave 6 white roses to Mary for her birthday. How many white roses did she have left?
5. Mother took Grandmother 4 red roses. How many red roses did Mother have left?
6. Try to name 2 things you eat that are sold by the dozen. Try to name 2 things you do not eat that are sold by the dozen.
7. Jack keeps hens. Yesterday he got 5 eggs and today he got 5 more. Did Jack get a dozen eggs in all?
8. Which of these things are sold by the dozen?

cookies
tickets
apples
oranges
sugar
ribbon
shoes
pencils
flowers
rolls
candy
books
bread
buttons
stamps

1. Dick earned 35¢ for carrying wood for the fireplace. Then he earned 60¢ for cleaning snow off the sidewalk. How much did Dick earn?

2. Susan spent 20¢ to ride on the bus, 25¢ for lunch, and 10¢ for candy. How much did Susan spend all together?

3. Last year 285 girls and 242 boys in our school did not miss a day of school. How many more girls than boys did not miss a day of school?

4. Peter has 60¢. He wants to buy a new game that costs 95¢. How much more money does he need?

5. Bill went to the store for his mother. He bought cookies for 31¢, a can of corn for 20¢, and bread for 18¢. How much did Bill pay for these things?

6. Peggy wants to buy colored paper for 9¢, white paper for 7¢, a pencil for 5¢, and crayons for 8¢. How much money does she need to buy all these things?

7. Yesterday 120 people came to our school play in the afternoon. At night 175 people came. How many people all together came to see our play?

8. How many more came at night to see our play than in the afternoon? Use the numbers in ex. 7 to find the answer.

9. Bob bought a toy for 40¢. He gave the man 50¢. How much money did the man give back to him?

Carrying in Addition

1. **Problem** Betty needs 25¢ for ribbon and 36¢ for buttons. How much money in all does Betty need?

Explanation The picture shows how much money Betty needs:

Ribbon costs

Buttons cost

How many dimes does Betty need? How many pennies does she need? How many cents is this in all?

Write the work like this and add:

2 dimes 5 pennies
3 dimes 6 pennies
5 dimes 11 pennies, or 6 dimes and 1 penny

Betty needs 61¢ all together.

You can also write the work as shown at the right. Think, "6¢ + 5¢ = 11¢, or 1 dime and 1 cent." Write 1 in cents place. Carry 1 dime to the dimes column and add it to 3 dimes. Think, "4 dimes + 2 dimes = 6 dimes." Write 6 in dimes place. The answer is 61¢.

25¢
36¢
61¢

Add these dimes and pennies. Use toy money to help you:

2.	39¢ 26¢	68¢ 17¢	53¢ 28¢	55¢ 35¢	47¢ 47¢	25¢ 57¢	44¢ 19¢
3.	17¢ 29¢	26¢ 47¢	79¢ 19¢	36¢ 35¢	18¢ 56¢	66¢ 24¢	49¢ 38¢

More Carrying

1. **Problem** There were 19 girls and 26 boys on the school bus this morning. How many children in all were on the bus?

Explanation Use the short way to add these numbers.

$$\begin{array}{r}19\\ \underline{26}\\ 45\end{array}$$

Think, "6 ones + 9 ones = 15 ones." Change 15 ones to 1 ten and 5 ones. Write 5 in ones place. Carry 1 ten to tens column and add it to 2 tens, making 3 tens.

Think, "3 tens + 1 ten = 4 tens." Write 4 in tens place. The answer is 45. How many children were on the bus?

Check the answer by adding down. Think "9, 15." Write 5. Carry 1 and add it to 1. Think "2, 4." Write 4. The sum is 45 again, so the work is right.

2. In Miss Brown's room there are 15 boys and 18 girls. How many children are there in the room?

Add these numbers. Begin at the bottom and add up. Check your work by adding down:

3.	48	69	55	23	37	57	15	18
	28	21	38	29	56	28	46	33
4.	43	42	18	27	59	13	39	34
	37	48	65	26	19	17	23	48
5.	39	48	25	16	24	19	17	28
	17	23	45	78	58	32	74	19

More Practice. See ⑳ on page 319.

Carrying in Addition

Add up. Check your work by adding down:

1.	13	47	26	54	27	25	28	67
	59	26	59	26	19	67	26	23
2.	49	23	16	58	44	75	14	39
	38	48	25	34	17	18	49	45
3.	22	49	36	37	59	38	61	36
	39	46	27	38	19	52	19	14

4. **Problem** Jim bought two packages of stamps for his stamp book. In one package there were 75 stamps. In the other package there were 85 stamps. How many stamps did Jim buy?

Explanation Think, "5 + 5 = 10." Write 0 in ones place. Carry 1 ten to tens column and add it to 8, making 9.

$$\begin{array}{r} 75 \\ \underline{85} \\ 160 \end{array}$$

Think, "9 + 7 = 16." 16 means 16 tens. Write 6 in tens place and 1 in hundreds place. The sum is 160. Jim bought 160 stamps.

Add up. Check by adding down:

5.	87	76	94	75	62	95	86	97
	55	87	46	96	89	15	99	27
6.	56	33	99	84	82	75	39	69
	96	98	97	88	68	47	73	95
7.	61	88	79	44	89	86	54	78
	49	22	66	67	38	45	89	37

More Practice. See ㉑ on page 320.

Seeds to Sell

1. **Problem** Jack sold 22 packages of seeds on Monday, 27 packages on Tuesday, and 15 packages on Wednesday. How many packages of seeds did Jack sell in the three days?

Explanation Add the three numbers like this: Begin at the bottom and add up. Think "5, 12, 14." Write 4 in ones place. Carry 1 ten to the bottom of tens column and add it to 1, making 2.

$$\begin{array}{r}22\\27\\\underline{15}\\64\end{array}$$

Think "2, 4, 6." Write 6 in tens place. The sum is 64. Jack sold 64 packages of seeds in three days.

Check by adding down. Think "2, 9, 14." Write 4. Carry 1 and add it to 2. Think "3, 5, 6." Write 6. The sum is 64 again, so the work is right.

2. Betty sells seeds, too. She sold 18 packages one day, 23 packages the next day, and 25 packages the third day. How many packages did Betty sell in all?

Column Addition

Add these numbers. Check your work:

1.	25	39	28	21	62	49	38	28
	34	20	33	16	11	14	25	23
	39	33	25	57	19	23	16	47

2.	28	38	48	37	46	27	54	27
	54	20	41	64	55	63	47	43
	47	76	13	25	27	49	27	38

Write these numbers in columns and add:

3. 25 + 22 + 39   47 + 14 + 33   65 + 25 + 45

4. 38 + 34 + 25   56 + 75 + 26   74 + 36 + 65

5. **Problem** This week Tom earned 25¢, 39¢, and 29¢. How many cents did Tom earn in all?

Explanation Add the three numbers at the right as you did on page 139. Think "9, 18, 23." Write 3 in ones place. This time there are 2 tens, so 2 is the number to carry. Think "4, 7, 9." Write 9 in tens place. The sum is 93. Tom earned 93¢ in all.

25
39
29
93

Add these numbers. Check your work:

6.	39	27	15	26	17	49	55	68
	17	29	58	19	19	39	47	25
	38	26	18	45	57	39	29	58

7.	59	18	68	75	39	46	58	47
	46	66	28	66	68	59	25	28
	16	47	57	29	39	28	49	55

More Practice. See ㉒ on page 320.

Christmas Party at School

1. The children in Miss Wood's room are working to get ready for a Christmas party this afternoon. There are 19 boys and 20 girls in her room. How many children are there in all?

2. The girls want to make 50 stars to put on the tree. They made 30 stars yesterday and are making the rest of them today. How many stars will they make today?

3. Some of the children made long paper ropes for the tree. They spent 25¢ for red paper, 30¢ for green paper, and 25¢ for white paper. How much did they spend in all for the paper?

4. Miss Wood gave Bill 90¢ to buy pretty balls for the tree. He spent only 80¢. How much money did he have left?

5. Miss Wood bought 48 candy canes in one box and 20 in another. How many candy canes did she buy all together?

6. Miss Wood did not put all 68 candy canes on the tree. She put 40 of them in a box for the children. Jack put the rest of them on the tree. How many candy canes did Jack put on the tree?

7. Miss Wood had 40 candy canes for the children. Could each child have a cane?

Helping Father

1. Jack helped his father in the store last Saturday. He sold Mrs. White bread for 22¢, carrots for 9¢, and a can of corn for 23¢.

Jack wrote the numbers as shown at the right. He could not add the numbers and asked his father to help.

$$\begin{array}{c}22\\9\\23\\\hline\end{array}$$

Jack's father said Jack must write the numbers in columns. The ones go in one column and the tens in the next column, as shown at the right. Then Jack could add the numbers. Tell how Jack added.

$$\begin{array}{r}22\\9\\23\\\hline 54\end{array}$$

2. Mary's mother bought a dozen eggs for 57¢, a can of fish for 25¢, and carrots for 9¢. How much did she pay for these things?

3. Peter bought milk for 23¢, cookies for 19¢, a bag of sugar for 49¢, and an orange for 6¢. How much did Peter have to pay?

4. Jim's mother bought ice cream for 39¢, an apple for 5¢, and a package of nuts for 37¢. How much did these things cost?

5. Jack sold Mrs. Green a cake for 65¢, a candy bar for 8¢, and some apples for 25¢. How much in all did Mrs. Green pay Jack?

6. Mrs. Hill bought a bunch of carrots for 9¢, cookies for 19¢, milk for 23¢, and oranges for 29¢. How much did Mrs. Hill pay for these things?

7. Here are other numbers Jack had to add. Write them in columns on your paper. Add and check:

46	16	9	33	46	27	57	15
6	27	43	4	7	62	5	17
18	48	34	59	32	9	18	19

More Practice. See ㉓ on page 321.

Problems and Practice

1. Next Saturday 3 groups of children from our school will go to a big farm. There are 33 children in one group, 29 in another, and 30 in the third. How many children are there all together?
2. There will be 3 busses to carry all the children and 3 teachers to the farm. Each bus can carry 32 people. Add to find how many people 3 busses can carry. Will 3 busses be enough to take the children and teachers to the farm? Use your answer to ex. 1.
3. Suppose 7 children cannot go to the farm on Saturday. Will 2 busses be enough to take the other children and 3 teachers?

Write these numbers in columns. Then add and check:

4. 43 + 29 + 43 66 + 53 + 68
5. 76 + 76 + 67 21 + 82 + 97
6. 84 + 57 + 15 69 + 82 + 75
7. 35 + 62 + 49 53 + 64 + 96
8. 95 + 48 + 42 33 + 57 + 99
9. Find the sum of 11, 8, 9, 14; of 52, 47, 36.
10. How many cents are 15¢, 8¢, 21¢, and 12¢?

Add these numbers and check your work:

11.	88	75	57	19	13	29	82	55
	39	25	38	76	43	24	36	29
12.	37	15	24	13	66	16	49	88
	36	48	39	27	39	54	8	25

Yes or No?

Read each exercise. Then tell whether it is right or wrong by saying "Yes" or "No":

1. A week from January 9 is January 16.
2. A foot is more than 16 inches.
3. The sum of 375 and 200 is 575.
4. A half dozen flowers is 6 flowers.
5. 14 inches are 4 inches more than 1 foot.
6. $3974 = 3000 + 900 + 70 + 4$.
7. 8 books and 7 books make 15 books.
8. The sum of 4¢, 1¢, 3¢, and 5¢ is 15¢.
9. A dozen eggs is the same as 12 eggs.
10. 4 nickels are the same as 20 cents.
11. One fourth and one quarter mean the same thing.
12. The month of February has 28 days this year.
13. 396 is the largest number that uses 3, 6, and 9.
14. It is an hour from half past four to five.
15. The two numbers after 1008 are 1009 and 1010.
16. A quarter is the same as 1 dime and 4 nickels.
17. The number 136 means 1 hundred, 3 tens, and 6 ones, or 13 tens and 6 ones.
18. Ann cut a pie into 4 equal pieces. Each piece is one quarter of the whole pie.
19. Bill had a board 18 inches long. He cut off a piece 10 inches long. Then he had 9 inches left.

Borrowing in Subtraction

1. Bill had 32¢. He wanted to pay Jack 15¢ for a top. Bill had only 3 dimes and 2 pennies, so he could not give Jack 15¢. Bill had one of his dimes changed into 10 pennies. Then he had 2 dimes and 12 pennies. Did he still have 32¢? After he paid Jack, how much did Bill have left?

You can write the work in this way:

Bill's money	2 dimes	12 pennies	32
Cost of top	1 dime	5 pennies	15
Money left	1 dime	7 pennies	17

How much did Bill have left?

2. **Problem** Ann had 42¢. She wanted to pay Sally 24¢ for a doll's dress. How much would Ann have left?

Explanation Write 24 under 42 and subtract.

You cannot subtract 4¢ from 2¢ because 4 is larger than 2. You know that 42¢ can be called 4 dimes and 2 cents. So take 1 dime from 4 dimes and put it with 2¢, making 12¢. Think, "4¢ from 12¢, 8¢." Write 8 in cents place. Remember that 1 of the 4 dimes has been changed to cents, so there are only 3 dimes left. Think, "2 dimes from 3 dimes, 1 dime." Write 1 in dimes place. The answer is 18, so Ann would have 18¢ left.

$$\begin{array}{r} {\scriptstyle 3\ 12} \\ \cancel{4}\cancel{2} \\ \underline{24} \\ 18 \end{array}$$

Subtract these money numbers. Use play money to help you:

3. $\begin{array}{r} 43¢ \\ \underline{28¢} \end{array}$ $\begin{array}{r} 74¢ \\ \underline{57¢} \end{array}$ $\begin{array}{r} 85¢ \\ \underline{19¢} \end{array}$ $\begin{array}{r} 93¢ \\ \underline{36¢} \end{array}$ $\begin{array}{r} 77¢ \\ \underline{58¢} \end{array}$ $\begin{array}{r} 70¢ \\ \underline{46¢} \end{array}$ $\begin{array}{r} 80¢ \\ \underline{35¢} \end{array}$

More Practice. See ㉔ on page 321.

To the Teacher. See page 328 for the additive method of subtraction.

Borrowing in Subtraction

1. **Problem** Bob had 45 papers to sell. He sold 28 in an hour. How many papers did he have left then?

Explanation You must subtract 28 from 45. You can think as you did in ex. 2 on page 146, or you can make the work shorter in this way:

You cannot take 8 ones from 5 ones, so borrow 1 ten and put it with the 5 ones. This makes 15 ones. Think, "8 ones from 15 ones, 7 ones." Write 7 in ones place. You borrowed 1 ten from 4 tens, so there are only 3 tens left. Think, "2 tens from 3 tens, 1 ten." Write 1 in tens place. The answer is 17. So Bob had 17 papers left.

$$\begin{array}{r} \overset{3}{\cancel{4}}\overset{15}{\cancel{5}} \\ \underline{28} \\ 17 \end{array}$$

To check the work above, add 17 and 28. Think, "7 + 8 = 15." Carry 1 ten to tens column and think, "1 (carried) + 1 + 2 = 4." The sum is 45, so the answer is right.

In the example above, the answer 17 is called the **remainder.**

In these problems, think as you did in ex. 1:

2. Mary Ann had 25 paper dolls. She gave 16 to her sister. How many paper dolls did she have left?

3. Peter earned 15¢ this morning. He wants to buy a toy truck that costs 90¢. How much more money does Peter need?

4. Sally wants to practice her music lesson 40 minutes after school. She has practiced 25 minutes. How many more minutes does she need to practice?

To the Teacher. See page 328 for the additive method of subtraction.

Subtraction Practice

Subtract these numbers. Check your work by adding:

1.	92	64	91	80	75	72	61	93
	58	15	78	29	19	36	45	15
2.	51	93	40	82	71	60	94	91
	24	34	27	59	53	24	48	67
3.	73	82	65	71	94	81	52	83
	48	43	37	26	26	62	14	39

4. Problem Peter has 142 stamps. His brother has 89 stamps. How many more stamps has Peter than his brother?

$$\begin{array}{r} \overset{13\ 12}{\cancel{142}} \\ 89 \\ \hline 53 \end{array}$$

Explanation You cannot take 9 ones from 2 ones. So borrow 1 ten and put it with 2 ones, making 12 ones. Remember that 1 hundred and 4 tens are the same as 14 tens. Since you borrowed 1 ten, there are 13 tens left. You now have 13 tens and 12 ones. Think, "12 − 9 = 3." Write 3 in ones place. Then think, "13 − 8 = 5." Write 5 in tens place. The remainder is 53. Peter has 53 more stamps than his brother.

Subtract. Check your work by adding:

5.	154	130	117	140	193	124
	79	52	58	63	97	87
6.	125	176	162	188	145	112
	98	89	67	99	97	38

More Practice. See ㉕ on page 321.

To the Teacher. See page 328 for the additive method of subtraction.

Review Problems

1. Jim wants to buy a box of paints. It costs 95¢. Jim has 60¢ now. How much more money does he need for the paints?

2. Suppose Jim earns a quarter, a dime, and a nickel. Will he have enough to buy the paints?

3. In September Ann had 24 sheets of drawing paper. So far she has used 11 sheets of it. How many sheets of Ann's drawing paper are left now?

4. Betty ate lunch at school. She paid 10¢ for milk, 12¢ for a sandwich, and 7¢ for an apple. How much did Betty's lunch cost?

5. Bill had 75 stamps in his book. He bought 36 more and Uncle Jim gave him a package of 50 stamps. How many stamps did Bill have then?

6. Dick had 75¢ this morning. He paid 35¢ for his school lunch. How much money did Dick have left?

7. At the store Susan paid 25¢ for a game. She also paid 25¢ for a book. How much money did Susan spend at the store?

8. In a game Peter got 6 points, 9 points, 5 points, and 8 points. What was Peter's score in the game?

9. In the game in ex. 8, Mary got 7 points, 4 points, 10 points, and 6 points. What was her score? Which score was better, Mary's or Peter's?

Can You Do These Problems?

1. In the park 18 children were playing ball and 12 were skating. How many children in all were in these two groups?

2. Ann wants to practice her music lesson 50 minutes today. After lunch she practiced 15 minutes. How many more minutes does she need to practice to make the time 50 minutes?

3. At the Christmas party there were 35 children. 19 were girls and the rest were boys. How many boys were at the party?

4. Jim has some hens. On three days this week he got 5 eggs, 8 eggs, and 4 eggs. How many eggs did Jim get all together? Is this number more than or less than 1 dozen?

5. Jane wants to buy a game that costs 90¢. She now has 53¢. How much more money does Jane need?

6. Today 24 boys and 22 girls went by bus to the park. How many children went to the park?

7. They saw 6 brown bears, 3 white bears, and 8 black bears. How many bears in all did the children see?

8. Behind a fence they saw 8 lions. Five lions were sleeping. The other lions were walking near the fence. How many lions were near the fence?

Do You Know the Right Word?

Say the right word that goes in each space. Then on your paper try to write the word:

1. A quarter is equal to five . . .
2. There are 12 inches in a . . .
3. The 1 in 1873 is in . . . place.
4. Wednesday is the next day after . . .
5. There are 30 minutes in a . . . hour.
6. January is the first . . . of the year.
7. 6 + 4 = 10 is called an addition . . .
8. The sixth month in the year is . . .
9. 10 hundred is the same as 1 . . .
10. Another name for 12 eggs is one . . . eggs.
11. The word that means **nothing**, or 0, is . . .
12. The remainder is the answer you get in . . .
13. When you find the sum of some numbers, you . . .
14. To find how many more one number is than another, you must . . .
15. When a cake is cut into 4 equal pieces, each piece is one . . . of the cake.
16. A pencil is shorter than one . . . Use **inch** or **foot** for your answer.
17. The long hand of the clock moves from 12 to 3 in 15 . . ., or a quarter of an . . .
18. You need more money to buy a book. To find how many more cents you need, you . . .

Watch the Answer

1. After school 21 girls and 15 boys rode home in the school bus. How many more girls than boys rode home?

$$\begin{array}{r}21\\ \underline{15}\\ 6\end{array}$$

2. Mary had 50¢ this morning. She spent 44¢ for a book. How many cents did Mary have left after she bought the book?

$$\begin{array}{r}50\\ \underline{44}\end{array}$$

3. Dick earned 35¢ and Bill earned 40¢. How much less did Dick earn than Bill?

$$\begin{array}{r}40\\ \underline{35}\end{array}$$

In the problems above, you get 0 when you subtract the tens. You do not write 0 in the answer because there are no more numbers at the left to subtract.

Subtract. **Check your work by adding up:**

$$\textbf{4.}\quad \begin{array}{r}65\\ \underline{48}\end{array}\quad \begin{array}{r}93\\ \underline{85}\end{array}\quad \begin{array}{r}56\\ \underline{37}\end{array}\quad \begin{array}{r}32\\ \underline{25}\end{array}\quad \begin{array}{r}84\\ \underline{68}\end{array}\quad \begin{array}{r}72\\ \underline{69}\end{array}\quad \begin{array}{r}67\\ \underline{38}\end{array}\quad \begin{array}{r}23\\ \underline{19}\end{array}$$

$$\textbf{5.}\quad \begin{array}{r}91\\ \underline{59}\end{array}\quad \begin{array}{r}64\\ \underline{59}\end{array}\quad \begin{array}{r}82\\ \underline{43}\end{array}\quad \begin{array}{r}58\\ \underline{49}\end{array}\quad \begin{array}{r}53\\ \underline{24}\end{array}\quad \begin{array}{r}85\\ \underline{77}\end{array}\quad \begin{array}{r}41\\ \underline{37}\end{array}\quad \begin{array}{r}42\\ \underline{26}\end{array}$$

$$\textbf{6.}\quad \begin{array}{r}36\\ \underline{28}\end{array}\quad \begin{array}{r}93\\ \underline{76}\end{array}\quad \begin{array}{r}74\\ \underline{65}\end{array}\quad \begin{array}{r}82\\ \underline{57}\end{array}\quad \begin{array}{r}94\\ \underline{86}\end{array}\quad \begin{array}{r}90\\ \underline{64}\end{array}\quad \begin{array}{r}63\\ \underline{28}\end{array}\quad \begin{array}{r}65\\ \underline{59}\end{array}$$

$$\textbf{7.}\quad \begin{array}{r}42\\ \underline{34}\end{array}\quad \begin{array}{r}57\\ \underline{19}\end{array}\quad \begin{array}{r}84\\ \underline{77}\end{array}\quad \begin{array}{r}95\\ \underline{46}\end{array}\quad \begin{array}{r}23\\ \underline{17}\end{array}\quad \begin{array}{r}41\\ \underline{18}\end{array}\quad \begin{array}{r}56\\ \underline{49}\end{array}\quad \begin{array}{r}82\\ \underline{38}\end{array}$$

More Practice. See ㉖ on page 322.

8. How many cents are left if you take 19¢ from 28¢?

9. Peter had 25 tickets to sell for a ball game. He has sold 18 tickets so far. How many tickets has Peter left to sell?

1. Jane has new roller skates. Today she skated 20 minutes after lunch and 35 minutes after school. How many minutes did Jane skate today?

2. Jim had 90¢ when he went to a ball game. When he came home he had 26¢ left. How many cents had Jim spent?

3. After school the school bus took 52 children home. There were 35 girls in the bus. How many boys were there?

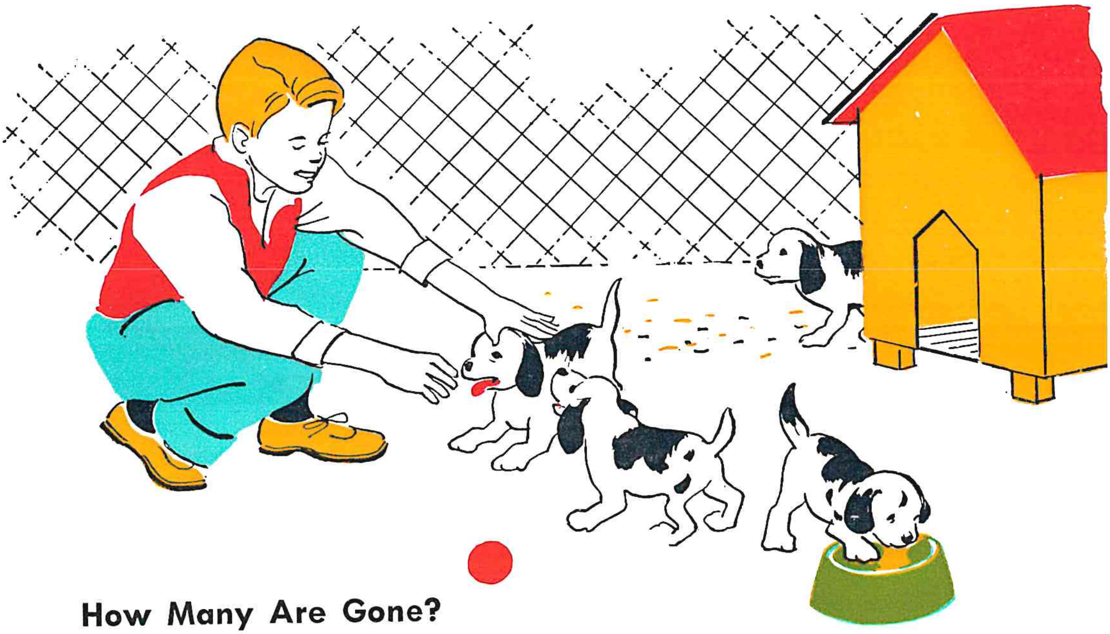
4. Alice wanted to skate after school. She went out at half past three. Her mother said she could skate for 45 minutes. At what time should Alice go home? Look at a clock to find the answer.

5. Alice went home at 10 minutes after 4. Did she stay out more or less than 45 minutes? See ex. 4.

6. Dick has 32 chickens. He counted 26 chickens when he gave them water today. How many chickens were missing then?

7. When Ann went to the store she had 85¢. When she got home she had 8¢ left. How much did Ann spend at the store?

8. Ann tried to check what she had spent. She had bought paper for 25¢, birthday cards for 34¢, and pencils for 18¢. Does the sum check with the answer to ex. 7?



How Many Are Gone?

1. Dick had 9 puppies. He has only 4 left. He sold the rest. How many puppies did he sell?
2. Dick also had 10 rabbits. After school he could find only 6 rabbits. How many rabbits had run away?
3. Jane had 15¢. Now she has only 10¢ left. How much money did she spend?
4. Mother made 48 cookies. After dinner only 27 of them were left. How many cookies did the family eat?

Suppose you know how many things you had at first and how many you have now. You subtract to find how many are gone.

Suppose you know how much money you had at first and how much you have now. You subtract to find how much you spent.

Review Practice

1. How much more than 28¢ is 53¢?

2. Find the sum of 8¢, 7¢, 5¢, and 6¢.

3. How many cents do 3 dimes and 1 nickel make?

4. Jim's pencil is 7 inches long. Is it more than or less than 1 foot long?

Subtract these numbers. Check your work:

5.	77 46	67 19	95 46	86 74	142 85	378 325	280 130
6.	51 27	62 48	53 34	86 35	145 53	124 38	467 405
7.	92 40	90 24	36 29	93 86	108 79	133 49	638 216
8.	75 39	95 12	46 28	95 65	150 76	111 58	139 73

Write in columns and add or subtract:

9. 137 − 68 105 + 74 979 − 570 162 − 83

10. 124 + 54 126 − 96 234 + 352 150 − 97

Write these numbers in columns. Then add and check:

11. 58 + 43 + 26 49 + 76 + 42

12. 27 + 94 + 39 57 + 63 + 49

13. 46 + 75 + 83 68 + 57 + 34

14. 98 + 23 + 63 58 + 76 + 61

15. 85 + 66 + 63 46 + 99 + 54

Chapter Review

Say the sums:

1.	37 and 7	81 and 9	35 + 8	59 + 2
2.	16 and 5	54 and 7	47 + 6	28 + 4
3.	49 and 3	64 and 9	12 + 9	38 + 7
4.	86 and 6	29 and 4	45 + 6	25 + 4
5.	18 and 3	28 and 6	39 + 8	46 + 4
6.	34 and 7	19 and 5	17 + 9	57 + 5

Add these numbers and check your work:

7.	3	6	1	4	2	9	4	7
	5	7	2	4	3	6	0	5
	8	8	7	9	6	4	4	4
	5	2	9	6	8	3	7	8

8.	53	21	44	45	68	87	43	79
	34	20	26	36	57	8	29	7
	12	58	28	46	54	25	74	38

Subtract and check your work:

9.	78	49	67	73	95	64	81	84
	15	39	39	25	46	48	25	56

10. How many things are there in 1 dozen?

11. How many inches are there in 1 foot?

12. Is the blackboard longer than 1 foot?

13. Is this book more or less than 10 inches wide?

14. Tom has a box 18 inches wide. Is this more than or less than 1 foot? How much more or less is it?

A Problem Test

This is the fourth Problem Test. Try to get every problem right. Each problem counts 10.

1. Miss Fox had 36 pencils in a box. She gave the children 31 pencils. How many pencils were left?
2. Peggy's mother bakes cookies and sells them. Peggy sold 48 nut cookies and 96 sugar cookies for her. How many cookies did Peggy sell?
3. At the school store Peter spent 9¢, 5¢, 3¢, and 8¢. How much did he spend all together?
4. Betty had a birthday party last week. There were 30 children at the party and 17 of them were girls. How many boys were there?
5. Jim wants to practice his music lesson 45 minutes today. This morning he practiced 25 minutes. How many more minutes does Jim need to practice?
6. Susan had sold 35 tickets to the school circus. Today she sold 8 more. How many tickets has Susan sold?
7. Bill had 50 tickets to sell. Now he has only 13 tickets left. How many tickets has Bill sold?
8. Mary has cut out pictures for a book she is making. She has 25 pictures of birds, 9 pictures of animals, and 16 pictures of flowers. How many pictures has Mary cut out?
9. Jack made a toy boat 16 inches long. How much more than 1 foot is this?
10. Jane's mother has roses in her garden. Today she picked a dozen red roses and a dozen white roses. How many roses did she pick today?

How Much Have You Learned?

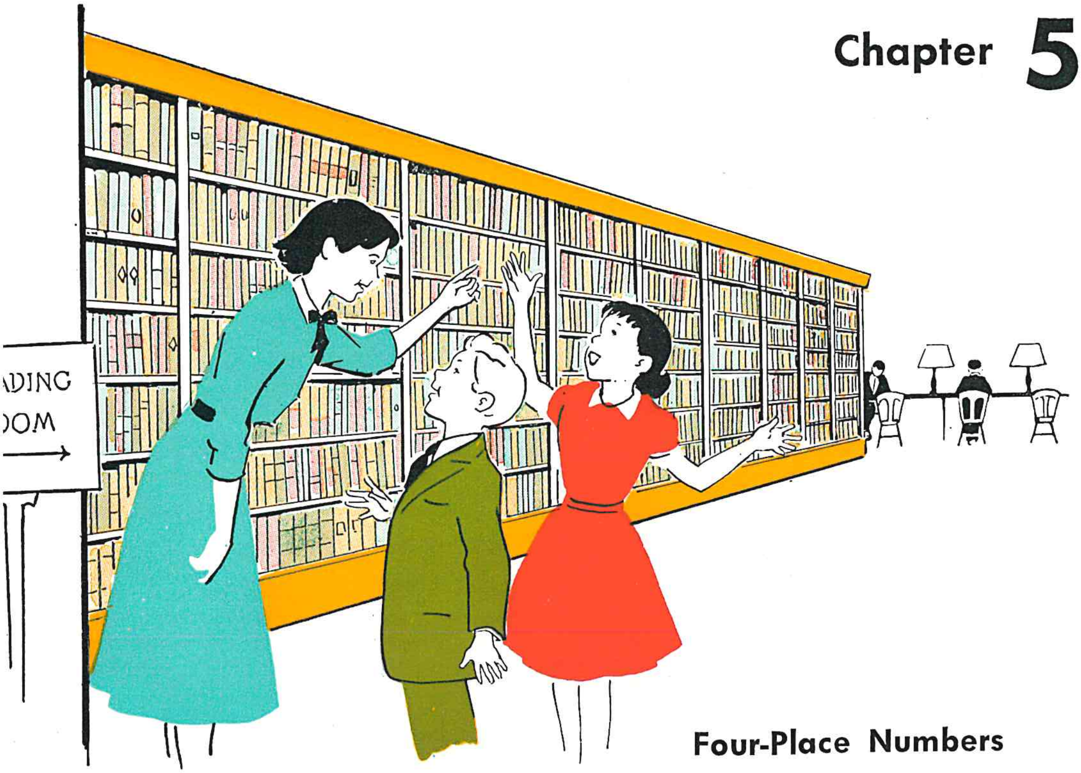
If you miss more than one example in a row, turn to the Practice Pages for that row.

Add these numbers and check your work:

							Practice Pages
1.	31 34 24	24 20 45	32 34 31	13 22 32	46 13 60	42 45 22	122, 123
2.	17 5	39 8	7 29	58 6	9 83	7 44	124, 125
3.	58 35	16 26	65 19	49 76	67 63	56 48	137, 138
4.	19 51 24	37 15 67	45 98 33	74 69 37	47 78 69	87 88 28	140
5.	9 4 6 1	5 3 8 7	6 8 2 9	6 3 5 6	4 9 2 8	3 5 3 9	126, 131

Subtract these numbers and check your work:

6.	75 32	93 71	128 54	156 96	374 62	869 634	127
7.	74 45	91 39	66 18	83 27	150 65	117 39	147, 148
8.	34 29	60 51	73 65	80 74	41 36	92 87	152



Chapter 5

Four-Place Numbers

1. Miss Fox took the children to a big library. They saw many, many books there. Bill said, "There must be a thousand books in this library. A thousand is ten hundred, you know." Mary laughed and said, "I think there are many thousands of books in this library." Mary was right. Miss Fox said there were 9500 books in all.

2. Miss Fox asked the children to count by thousands, like this: 1000, 2000, 3000, . . ., . . ., . . ., . . ., . . ., . . ., . . .

3. The number 9500 is a **four-place** number. It is read 9 **thousand** 5 **hundred,** or 95 **hundred.** Read each of these four-place numbers in two ways: 5600, 4900, 8400, 1700, 2500, 6100, 3200, 7800.

Four-Place Numbers

1. In a four-place number the first figure at the left stands for **thousands.** The number 4208 means 4 thousands, 2 hundreds, 0 tens, and 8 ones. It is read **four thousand two hundred eight,** or **forty-two hundred eight.** Sometimes a four-place number, such as a telephone number, is read like this: **four, two, o, eight.** When there is a zero in the number, it is read like the letter o.

Thousands	Hundreds	Tens	Ones
4	2	0	8

2. What does the number 5367 mean? You can show what it means by adding in this way: 5000 + 300 + 60 + 7. Add these numbers as shown at the right. You get 5367. Tell three ways to read 5367.

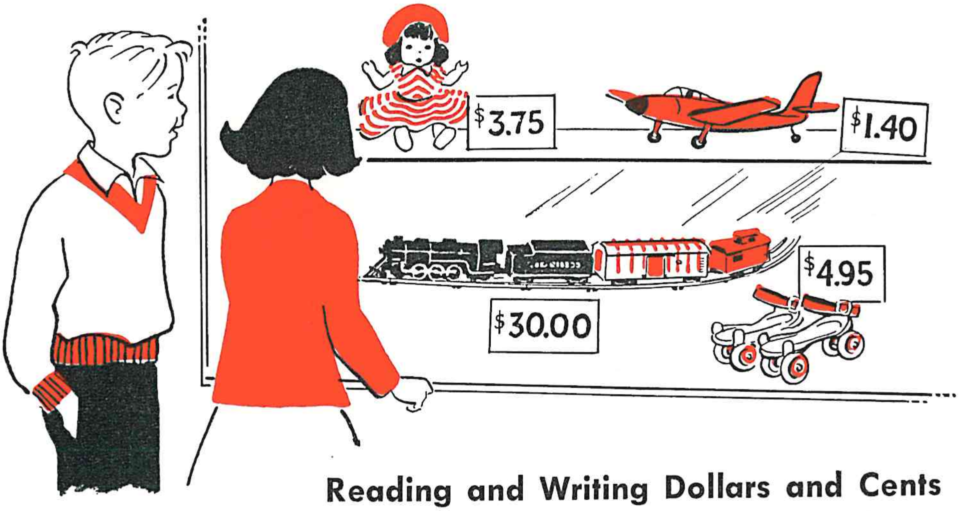
$$\begin{array}{r} 5000 \\ 300 \\ 60 \\ \underline{7} \\ 5367 \end{array}$$

3. The number 2006 is read **two thousand six,** or **twenty hundred six,** or **two, o, o, six.** Read each of these numbers in three ways: 9008 5002 6015

4. On page 159 you counted by thousands. The next thousand after 9000 is 10,000. A comma is put after the thousands in a **five-place** number like 10,000. This makes the number easier to read. In a four-place number, the comma may be used or left out.

Read each number in two ways:

5. 9875 2817 3280 5602 5139 3652
6. 5100 3060 2005 9999 8000 9604
7. Ask your teacher to read the numbers in ex. 5 and 6. Write the numbers as they are read.
8. Write in figures: two thousand one hundred nine.



Reading and Writing Dollars and Cents

1. You know that $4 means four dollars. The skates cost four dollars and ninety-five cents. You write it like this: $4.95. The dot goes **between** the dollars and the cents. The dot is called a **decimal point.**
2. You can also write four dollars like this: $4.00. This shows there are **no** cents.
3. You write fifty cents like this: 50¢ or $.50 or $0.50.
4. You write five cents like this: 5¢ or $.05 or $0.05.
5. Read the prices in the picture above.

Read these prices:

6. $7.00 $6.03 $35.00 $.87 $.10 $5

7. $1.40 $3.75 $10.25 $.09 $.40 $1

Write these prices, using the sign $ and the decimal point:

8. 5 dollars and fifteen cents 8 cents

9. 8 dollars and sixty cents 4 cents

10. 4 dollars and seven cents 17 cents

Carrying in Three-Place Numbers

1. **Problem** Susan wants to buy roller skates for $4.69 and a sled for $5.29. How much will both cost?

Explanation Susan needs to add to find the cost of both. She writes the addition this way:

$$\begin{array}{rcrrr} \$4.69 & = & 4 \text{ dollars} & 6 \text{ dimes} & 9 \text{ cents} \\ \underline{\$5.29} & = & \underline{5 \text{ dollars}} & \underline{2 \text{ dimes}} & \underline{9 \text{ cents}} \\ & & 9 \text{ dollars} & 8 \text{ dimes} & 18 \text{ cents} \end{array}$$

Susan knows that 18 cents equals 1 dime and 8 cents. Her answer is 9 dollars, 9 dimes, 8 cents, or $9.98.

You can also write the work as shown at the right. Think, "9¢ + 9¢ = 18¢." Change 18¢ to 1 dime and 8¢. Write 8 in cents place. Carry 1 dime to the dimes column and add it to 2 dimes.

$$\begin{array}{r} \$4.69 \\ \underline{5.29} \\ \$9.98 \end{array}$$

Think, "3 dimes + 6 dimes = 9 dimes." Write 9 in dimes place. Think, "$5 + $4 = $9." Write 9 in dollars place. Write the dollar sign. Put the decimal point in the sum under the other decimal points. The answer is $9.98. Check the work by adding down.

Add these money numbers. If you need to, write the work as Susan did:

2.	$1.27 4.64	$2.33 6.18	$5.68 3.22	$2.58 1.37	$1.37 1.49	$4.49 2.31
3.	$3.25 4.28	$3.26 1.49	$2.38 4.56	$4.08 1.35	$1.59 2.04	$5.27 2.13

More Practice. See ㉗ on page 322.

Carrying from Ones to Tens

1. **Problem** Bill has 147 stamps in his new stamp book. He has 128 more stamps to put in the book. How many stamps has he all together?

Explanation Use this way to add the numbers.

Think, "8 ones and 7 ones are 15 ones. 15 ones means 1 ten and 5 ones." Write 5 in ones place. Carry 1 ten to tens column and add it to 2 tens.

$$\begin{array}{r} 147 \\ \underline{128} \\ 275 \end{array}$$

Think, "3 tens and 4 tens are 7 tens." Write 7 in tens place.

Think, "1 hundred and 1 hundred are 2 hundreds." Write 2 in hundreds place. The sum is 275. Bill has 275 stamps all together.

Add up. Check each answer by adding down:

2.	419 218	637 136	169 116	206 244	554 218	259 624
3.	735 245	406 115	227 129	317 546	429 553	224 317
4.	357 207	427 538	818 165	125 418	334 336	105 229
5.	349 412	307 104	718 119	248 334	508 147	337 106

Adding Three-Place Numbers

1. Tom had 125 stamps in his book. Today he bought 135 stamps. How many stamps has Tom now?

2. In the Lake School there are 228 children. In the Park School there are 269 children. How many children are there in both schools?

Add up. Check each answer by adding down:

3. 669 307	412 238	459 231	715 249	839 129	654 216
4. 608 168	526 138	568 322	258 137	223 718	309 325
5. 336 136	127 464	545 306	309 574	361 429	145 228
6. 102 759	233 718	425 557	549 138	118 813	427 423

7. Find the sum of 704 and 239; of 127 and 536.

8. What is the answer when you add 429 to 553?

9. Add 229 to each of these numbers: 318 146 437

10. Add two hundred fifteen and six hundred eight.

11. Add three hundred nineteen and one hundred two.

Find these sums and check:

12. 108 + 556 681 + 109 227 + 547

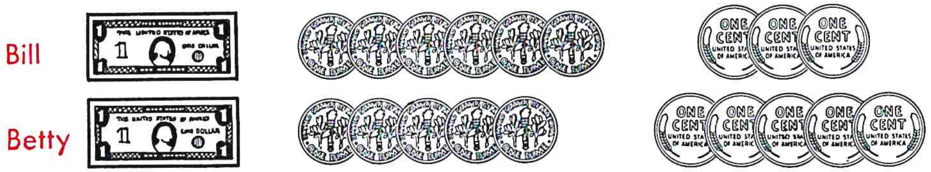
13. 269 + 209 125 + 325 626 + 227

14. 316 + 179 148 + 103 414 + 358

1. Jack spent 15¢ for paper, 39¢ for a book, and 35¢ for a ticket to the movies. How much money did Jack spend all together?
2. Jack had a half dollar, a quarter, a dime, and a nickel. Did he have enough money to pay for the things he bought in ex. 1?
3. Betty wants to practice her music lesson 45 minutes today. So far she has practiced 30 minutes. How many more minutes should Betty practice?
4. Peter saves box tops. He had saved 25 tops. Then Aunt Mary gave him 18 tops. Now how many box tops has Peter?
5. In Ann's school there are 218 boys and 225 girls. How many children in all are there in the school?
6. Bob has 375 stamps in his stamp book. There are 320 stamps of this country. All the rest are from other countries. How many stamps from other countries has Bob in his book?
7. Bob has 375 stamps. Joe has a new stamp book and has started to save stamps. He has only 125 now. How many more stamps has Bob than Joe?
8. Peggy has 2 quarters. Is that enough to buy a movie ticket for 35¢? If so, how much will be left?
9. Tom had 50¢ to spend. When he came from the store he had 11¢ left. How much had Tom spent?
10. Today is Susan's birthday. She got two story books. One book has 128 pages and the other has 144 pages. How many pages are there in both books?

Changing Dimes to Dollars

1. Bill and Betty have been saving money for a present for their mother. Now they are putting it together to see how much they have. Here is the money each one has:



Together they have 2 dollars, 11 dimes, 8 cents. Bill says, "The 11 dimes make 1 dollar and 1 dime. So we have 3 dollars, 1 dime, 8 cents, or $3.18."

You can write the work as shown at the right. Think, "5¢ + 3¢ = 8¢." Write 8 in cents place.

$$\begin{array}{r} \$1.63 \\ 1.55 \\ \hline \$3.18 \end{array}$$

Think, "5 dimes + 6 dimes = 11 dimes. 11 dimes = 1 dollar and 1 dime." Write 1 in dimes place. Carry 1 dollar to dollars column and add it to 1 dollar.

Think, "$2 + $1 = $3." Write 3 in dollars place. Write the dollar sign. Put the decimal point in the sum under the other decimal points. The answer is $3.18. Check the work by adding down.

Add these numbers and check each answer:

2.	$3.65	$7.51	$1.95	$2.94	$3.55	$2.73
	5.83	1.68	4.90	1.75	4.51	6.83
3.	$4.90	$1.82	$1.72	$1.80	$1.55	$2.66
	1.89	6.74	5.76	1.62	3.82	4.72

More Practice. See ㉘ on page 322.

Carrying from Tens to Hundreds

1. **Problem** Last summer Ann's father took her on a trip. They rode 380 miles by train and 155 miles by car. How many miles did they ride in all?

Explanation Think, "5 ones + 0 ones = 5 ones." Write 5 in ones place.

$$\begin{array}{r}380\\ \underline{155}\\ 535\end{array}$$

Think, "5 tens + 8 tens = 13 tens. 13 tens = 1 hundred and 3 tens." Write 3 in tens place. Carry 1 hundred to hundreds column and add it to 1 hundred.

Think, "2 hundreds + 3 hundreds = 5 hundreds." Write 5 in hundreds place. The sum is 535. How many miles did they ride in all?

2. Ann's father drove his car 372 miles on Monday and 255 miles on Tuesday. How many miles did he drive both days?

Add these numbers and check each answer:

3.	191 253	392 461	163 643	223 286	684 223	573 254
4.	684 95	468 161	541 374	232 595	496 323	341 195
5.	571 196	712 97	257 370	460 296	630 185	453 91
6.	270 164	781 182	341 168	135 74	490 343	342 383

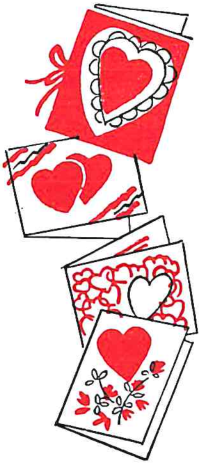
Problems and Practice

1. What is the sum of 252 and 356?
2. Find the sum of 284 eggs and 155 eggs.
3. How many books are 173 books and 162 books?
4. Add 391 tickets and 595 tickets.

Add these numbers and check each answer:

5.	795 + 112	294 + 572	160 + 158
6.	383 + 472	256 + 380	136 + 472
7.	653 + 182	493 + 434	588 + 240
8.	392 + 492	187 + 172	190 + 236

9. Last week Jack helped his father in the store. He stamped prices on 432 cans of corn and 192 cans of milk. How many cans was that all together?
10. Jim got two story books for his birthday. One book has 160 pages. The other one has 144 pages. How many pages are there in both books?
11. Mr. Green sells valentines. The first week in February he sold 472. The second week he sold 434. How many valentines did he sell in two weeks?



Find the sums and check your work:

12.	763	480	218	273	436
	156	360	566	233	307
13.	648	469	265	494	283
	203	115	253	191	326

1. Jim has many old coins he has saved. One of his old nickels has V on one side of it, like the coin shown at the right. Jim's father told him V is a Roman number and means 5.

2. Numbers, like V, that are made with letters are called Roman numbers. They were used by the Roman people long ago. With only a few letters the Romans could write all the numbers they needed. Only three different letters are used to write the Roman numbers from 1 to 12. The letter I stands for 1, the letter V stands for 5, and the letter X stands for 10.

3. Here are the first twelve Roman numbers and the numbers they stand for. Learn them:

I	II	III	IIII or IV	V	VI
1	2	3	4	5	6

VII	VIII	IX	X	XI	XII
7	8	9	10	11	12

4. When I stands **before** a larger Roman number, like V or X, it means that 1 is subtracted from the larger number. IX means 10 − 1, or 9. What does IV mean?

5. When I, II, or III stands **after** a larger Roman number, like V or X, the numbers are added. VII means 5 + 2, or 7. What does XI mean? VI? XII?

6. Write in Roman numbers: 4, 8, 11, 7, 9.

7. Read these numbers: III, X, VII, XII, IV.

School Lunches

1. **Problem** Today 195 boys and 218 girls ate lunch at school. How many children ate lunch at school?

Explanation Write 218 under 195 and add.

$$\begin{array}{r} 195 \\ \underline{218} \\ 413 \end{array}$$

Think, "8 ones + 5 ones = 13 ones, or 1 ten and 3 ones." Write 3 in ones place. Carry 1 ten to tens column and add it to 1 ten.

Think, "2 tens + 9 tens = 11 tens, or 1 hundred and 1 ten." Write 1 in tens place. Carry 1 hundred to hundreds column and add it to 2 hundreds.

Think, "3 hundreds + 1 hundred = 4 hundreds." Write 4 in hundreds place.

How many children ate lunch at school? Check the work by adding down.

Carrying to Tens and Hundreds

Add these numbers and check your work:

1.	183 259	687 227	424 289	236 676	149 153	281 479
2.	577 286	359 478	196 549	715 187	296 575	349 485
3.	387 385	149 576	573 377	288 265	196 358	449 467

4. Ann saves buttons. She has 245 large buttons and 178 small ones. How many buttons has she in all?

5. Joe saves stamps. He has 463 stamps of this country and 168 stamps of other countries. How many stamps has Joe all together?

6. Mary Ann saves shells. She had 278 shells in June. Then she got 325 shells in the summer. How many shells has Mary Ann now?

7. Find the sum of four hundred ninety-two and two hundred eighteen. Add 496 and 208.

8. Add three hundred fifty-six and one hundred fifty-four. Add 297 and 657; add 264 and 386.

Copy these numbers, add, and check:

9.	497 + 169	125 + 375	378 + 522
10.	165 + 736	588 + 337	277 + 134
11.	259 + 564	156 + 148	159 + 689

More Practice. See ㉙ on page 323.

Adding Money Numbers

1. **Problem** Jane is saving money to buy Christmas presents. She saved \$1.94 one week, \$.89 the next week, and \$2.25 the third week. How much money did Jane save in three weeks?

$$\begin{array}{r} \$1.94 \\ .89 \\ 2.25 \\ \hline \$5.08 \end{array}$$

Explanation Write the numbers so that the decimal points are under one another. Write the sign \$ only before the first number.

Add the cents: 5¢ + 9¢ + 4¢ = 18¢. 18¢ = 1 dime and 8¢. Write 8 in cents place. Carry 1 dime to dimes column and add it to 2 dimes.

Add the dimes: 3 + 8 + 9 = 20. 20 dimes = 2 dollars and 0 dimes. Write 0 in dimes place. Carry 2 dollars to dollars column and add it to 2 dollars. Tell how to finish the work.

2. Find the sum of \$1.49, \$3.98, and \$1.75.

Add up. Check your answers by adding down:

3.	\$5.25 3.95	\$2.97 1.45	\$4.98 2.39	\$3.08 4.95	\$3.84 2.57
4.	\$3.29 .91 5.07	\$7.96 .34 1.54	\$2.28 3.17 3.45	\$2.91 .69 .66	\$7.08 1.26 .94
5.	\$5.89 .73 2.67	\$1.96 .35 .70	\$4.30 2.19 1.78	\$2.04 6.58 .48	\$5.30 .57 2.58

Copy in columns, add, and check:

6. \$1.81 + \$1.08 + \$.36   \$6.57 + \$.80 + \$.24

7. \$4.55 + \$.48 + \$4.72   \$1.77 + \$.84 + \$.69

Taking a Trip

1. Mother took Bill and Sally to see Grandfather White. She paid $9.94 for train tickets. They came home by bus. The bus tickets cost $8.89. How much did all the tickets cost?
2. On the train Mother paid $1.25 for Bill's lunch, $1.35 for Sally's lunch, and $.95 for her own lunch. How much did the three lunches cost?
3. Bill had saved $4.75 for the trip. Sally had saved $5.35. How much had the two children saved all together?

Add these money numbers:

4.	$1.52 1.75	$5.18 2.39	$4.46 1.79	$2.07 2.93	$1.34 .97
5.	$6.72 2.59	$3.85 7.59	$4.37 .88	$2.68 5.62	$6.86 4.76

Do You Need More Practice?

Subtract. Check your answers by adding up:

1.	47	31	86	89	598	136	882
	15	16	78	64	227	65	412
2.	96	43	35	92	497	105	579
	27	18	32	49	452	41	469
3.	69	44	67	46	879	156	753
	28	25	59	33	813	96	432
4.	82	98	65	51	986	149	107
	44	39	38	28	654	87	53

5. Peter had 90 marbles. He gave some of them to his brother. Now Peter has 75 marbles. How many marbles did Peter give his brother?

6. At the store Sally spent 22¢, 15¢, and 49¢. How many cents in all did Sally spend?

7. Find the sum of $3.98 and $2.75.

Add these numbers and check your work:

8.	249	126	275	188	563	437
	487	165	58	264	195	265
9.	276	263	239	436	674	537
	173	278	359	486	235	446
10.	128	199	326	427	149	744
	755	435	357	238	376	173
11.	112	174	485	381	358	655
	88	586	879	168	359	237

Watch the Zeros

1. **Problem** Jack bought a cowboy hat for $2.06 and a cowboy suit for $7.04. How much did he pay for both of these things?

Explanation First think, "4¢ + 6¢ = 10¢." Write 0 in cents place and carry 1 dime to dimes column.

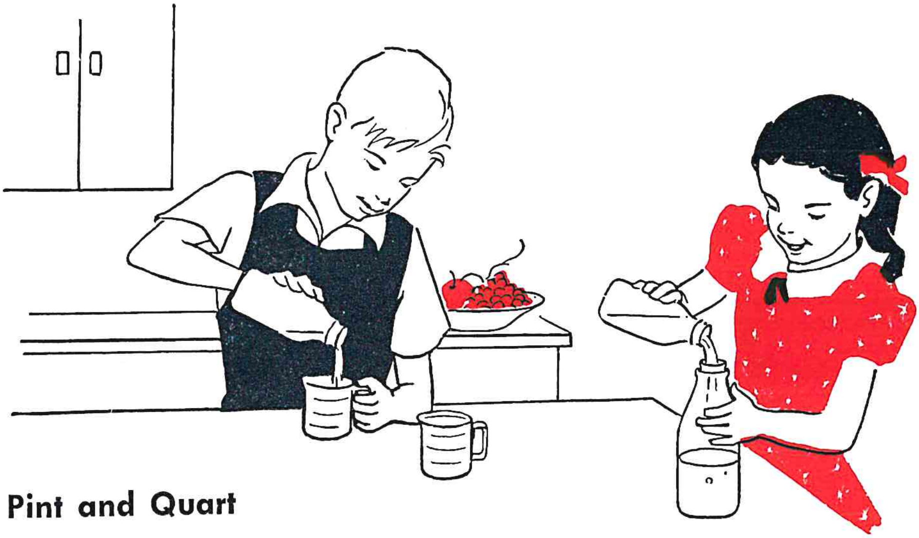
$$\begin{array}{r}\$2.06\\ \underline{7.04}\\ \$9.10\end{array}$$

Think, "1 dime (carried) + 0 + 0 = 1 dime." Write 1 in dimes place.

Think, "$7 + $2 = $9." Write 9 in dollars place. The answer is $9.10. How much did Jack pay for the hat and suit?

Add and check. Watch the zeros:

2.	$3.05 5.05	$4.71 4.09	$2.78 3.70	$3.00 2.07	$.66 .38
3.	$6.50 1.50	$1.09 2.96	$7.08 2.06	$1.46 5.54	$.70 .30
4.	$3.52 5.49	$2.44 1.99	$1.97 1.08	$4.75 4.25	$.65 .09
5.	$2.90 4.67	$2.09 6.09	$2.55 2.53	$5.53 1.97	$.60 .60
6.	$2.54 6.53	$4.00 2.90	$1.28 3.81	$ .54 3.06	$.32 .98
7.	$1.08 4.92	$5.20 3.80	$6.00 3.60	$3.94 6.06	$.80 .24



Pint and Quart

1. Jim and Sally are learning about **pints** and **quarts.** Mother let them use milk bottles and her measuring cups. Jim filled a pint bottle with water. Then he poured water from the pint bottle to fill 1 measuring cup. He used the rest of the pint to fill the other cup. How many cups make 1 pint?

2. Sally filled a pint bottle with water. She poured the water into a quart bottle. Then she poured another pint of water into the quart bottle. This just filled the quart bottle. How many pints make 1 quart?

2 cups = 1 pint
2 pints = 1 quart

3. Jim says his glass holds as much as a measuring cup. Will 1 pint of milk fill 2 glasses like Jim's? How many glasses like Jim's will 1 quart of milk fill?

4. Jim and Sally each drink 4 glasses of milk a day. How many glasses of milk do you drink every day? Is it more or less than 1 quart?

Money Problems

1. **Problem** This week Bob earned 60¢, 25¢, and 75¢. How much did he earn all together?

Explanation The answer to this problem is 160¢. You know that 100¢ make 1 dollar. Then 160¢ is the same as 1 dollar and 60 cents. You write it like this: $1.60.

$$\begin{array}{r} 60 \\ 25 \\ \underline{75} \\ 160 \end{array}$$

2. The children are earning money to buy a birthday present for Father. Jim has earned 75¢, Ann has earned 45¢, and Billy has earned 35¢. How much have the children earned all together?

3. In the last three weeks Susan has saved 80¢, 50¢, and 95¢. How much has Susan saved in this time?

4. After school Jack sold Christmas cards to three people. He got 65¢, 40¢, and 78¢. How much money did Jack get all together?

5. Mary went to the store for her mother. She spent 65¢ for eggs, 21¢ for bread, and 22¢ for milk. How much in all did she spend?

Find the sums. Then write the answers with the sign $:

6.
$$\begin{array}{r} 75¢ \\ 35¢ \\ \underline{75¢} \end{array} \quad \begin{array}{r} 47¢ \\ 65¢ \\ \underline{44¢} \end{array} \quad \begin{array}{r} 56¢ \\ 54¢ \\ \underline{19¢} \end{array} \quad \begin{array}{r} 94¢ \\ 55¢ \\ \underline{28¢} \end{array} \quad \begin{array}{r} 48¢ \\ 64¢ \\ \underline{33¢} \end{array} \quad \begin{array}{r} 67¢ \\ 26¢ \\ \underline{56¢} \end{array} \quad \begin{array}{r} 32¢ \\ 86¢ \\ \underline{42¢} \end{array}$$

More Practice. See ㉚ on page 323.

When an answer is larger than 100¢, change the answer to dollars and cents.

Making Change

1. **Problem** The children went to a big store. Each one had a quarter. Jim bought a toy truck for 10¢. He gave the girl a quarter. The girl gave back some money to Jim. This money she gave back is called **change.** Can you tell how much change Jim got?

   Explanation The girl made the change like this: She began with the cost of the toy, 10. She gave Jim a dime, which she added to 10, and said "20." Then she gave Jim a nickel, which she added to 20, and said "25." She stopped there because 25¢ equals the money Jim gave her. She added enough to 10¢ to make 25¢.

2. Susan picked out a doll's hat for 18¢. She gave a quarter to pay for it. Tell what the girl said as she gave Susan the change. How much was the change?

3. Billy bought a duck for 5¢. He gave the girl a quarter. Tell how she counted the change as she gave it to Billy. How much change did she give Billy?

4. In ex. 3, Billy got 2 dimes in change. Tell two other ways the change could have been made. Count out Billy's change in these two other ways. Which of the three ways uses the fewest coins?

5. Jane went to the school store with 2 dimes. She bought paper for 13¢. Tell what the man said as he gave her the change. How much money did he give Jane? How many coins did he give Jane?

6. Make change from 25¢ for things that cost:

17¢ 9¢ 4¢ 15¢ 2¢ 11¢ 14¢

7. Make change from 2 dimes for things that cost:

15¢ 17¢ 12¢ 18¢ 11¢ 14¢ 16¢

8. Play store with toy money and make change for a quarter. Count the change as they do in a store.

Making Change

1. Joe earned a half dollar. He paid 29¢ for a toy boat. The man gave him 1 penny and 2 dimes. The man gave Joe these coins, one at a time, saying, "29, 30, 40, 50." Why did he begin with 29? Why did he stop at 50?

2. The man in ex. 1 could have made the change in another way. He could have given Joe 1 penny, 1 dime, and 2 nickels. Then he would have said, as he gave Joe the coins one at a time, "29, 30, 40, . . ., . . ." What numbers go in the spaces? Tell another way the man could have made the change.

3. Suppose you buy a game for 23¢. How would you count your change from 50¢? How much change would you get? How would you count your change from 50¢ if you buy marbles for 19¢? if you buy a toy for 36¢? if you buy ice cream for 8¢?

4. In making change, the man uses the smallest number of coins he can. Suppose you give him a half dollar for a book that costs a quarter. What is the smallest number of coins he can give you in change?

In these exercises count the change from $1.00. Suppose people buy things that cost:

5. 24¢
6. 72¢
7. 63¢
8. 88¢
9. 19¢
10. 27¢
11. 55¢
12. 75¢
13. 36¢
14. 81¢
15. 47¢
16. 92¢
17. 25¢
18. 60¢
19. 40¢
20. 50¢

21. Do ex. 9 to 12 again. Count the change a different way from the way you used the first time.

Borrowing in Money Numbers

1. Problem Dick has saved \$6.48. He wants to buy skates for \$9.75. How much more does he need?

Explanation You cannot subtract 8¢ from 5¢, so you take one of the 7 dimes and change it to 10¢. The 10¢ added to 5¢ makes 15¢. \$9.75 equals 9 dollars, 6 dimes, 15 cents. You can now subtract in this way:

$$\begin{array}{r}\$9.75\\ \underline{6.48}\end{array}$$

$$\begin{array}{rcrrl}\$9.75 & = & 9 \text{ dollars} & 6 \text{ dimes} & 15 \text{ cents}\\ \underline{6.48} & = & \underline{6 \text{ dollars}} & \underline{4 \text{ dimes}} & \underline{\;\;8 \text{ cents}}\\ & & 3 \text{ dollars} & 2 \text{ dimes} & \;\;7 \text{ cents, or } \$3.27\end{array}$$

A shorter way to do the work is shown below.

You cannot take 8¢ from 5¢, so change one of the 7 dimes to 10¢. 10¢ + 5¢ = 15¢. You can now subtract 8¢ from 15¢. Think, "8¢ from 15¢, 7¢." Write 7 in cents place.

$$\begin{array}{r}\$9.\overset{6}{\cancel{7}}\overset{15}{\cancel{5}}\\ \underline{6.48}\\ \$3.27\end{array}$$

You changed 1 dime to 10¢, so there are only 6 dimes left. Think, "4 dimes from 6 dimes, 2 dimes." Write 2 in dimes place. Think, "6 dollars from 9 dollars, 3 dollars." Write 3 in dollars place.

Dick needs to save \$3.27 more. Check the work.

Subtract. Tell what you think as you do each step:

2. $\begin{array}{r}\$5.83\\ \underline{3.48}\end{array}$ $\quad\begin{array}{r}\$8.71\\ \underline{7.03}\end{array}$ $\quad\begin{array}{r}\$2.82\\ \underline{1.58}\end{array}$ $\quad\begin{array}{r}\$9.78\\ \underline{1.39}\end{array}$ $\quad\begin{array}{r}\$2.62\\ \underline{.49}\end{array}$

3. $\begin{array}{r}\$3.33\\ \underline{1.24}\end{array}$ $\quad\begin{array}{r}\$3.97\\ \underline{.28}\end{array}$ $\quad\begin{array}{r}\$4.50\\ \underline{3.24}\end{array}$ $\quad\begin{array}{r}\$8.93\\ \underline{1.56}\end{array}$ $\quad\begin{array}{r}\$6.96\\ \underline{5.48}\end{array}$

More Practice. See ㉛ on page 323.

To the Teacher. See page 329 for the additive method of subtraction.

Borrowing from Tens

1. **Problem** There are 683 children in our school. In the Lake School there are 549 children. How many more are there in our school than in the Lake School?

Explanation You cannot subtract 9 ones from 3 ones. So you take 1 ten from 8 tens and change it to 10 ones. You now have 7 tens and 13 ones.

$$\begin{array}{r} \scriptstyle 7\;13 \\ 6\cancel{8}\cancel{3} \\ 549 \\ \hline 134 \end{array}$$

Think, "9 ones from 13 ones, 4 ones." Write 4 in ones place. Think, "4 tens from 7 tens, 3 tens." Write 3 in tens place. Think, "5 hundreds from 6 hundreds, 1 hundred." Write 1 in hundreds place. The answer is 134. There are 134 more children in our school than in the Lake School.

When you have practiced more subtraction, **think** of the little numbers but do not write them. Write the example as shown here.

$$\begin{array}{r} 683 \\ 549 \\ \hline 134 \end{array}$$

Subtract these numbers. Check your work by adding up:

2. $\begin{array}{r} 270 \\ 105 \\ \hline \end{array} \quad \begin{array}{r} 986 \\ 479 \\ \hline \end{array} \quad \begin{array}{r} 350 \\ 226 \\ \hline \end{array} \quad \begin{array}{r} 473 \\ 34 \\ \hline \end{array} \quad \begin{array}{r} 561 \\ 426 \\ \hline \end{array} \quad \begin{array}{r} 992 \\ 754 \\ \hline \end{array}$

3. $\begin{array}{r} 994 \\ 217 \\ \hline \end{array} \quad \begin{array}{r} 582 \\ 566 \\ \hline \end{array} \quad \begin{array}{r} 491 \\ 148 \\ \hline \end{array} \quad \begin{array}{r} 395 \\ 28 \\ \hline \end{array} \quad \begin{array}{r} 976 \\ 557 \\ \hline \end{array} \quad \begin{array}{r} 363 \\ 317 \\ \hline \end{array}$

Copy, subtract, and check:

4. 674 − 425 834 − 608 392 − 85

5. 773 − 269 690 − 137 994 − 76

6. 583 − 355 235 − 127 785 − 49

7. 581 − 419 487 − 339 590 − 83

To the Teacher. See page 329 for the additive method of subtraction.

Do You Know the Right Word?

Say the right word that goes in each space. On your paper try to write the word:

1. There are 2 pints in 1 . . .
2. Five nickels are equal to a . . .
3. The tenth month of the year is . . .
4. Christmas comes in the month of . . .
5. The number 409 means 4 . . ., 0 . . ., 9 . . .
6. 5 + 2 and 2 + 5 both have the same . . .
7. You read $2.50 like this: 2 . . . and 50 . . .
8. The sign $ means . . .; the sign ¢ means . . .
9. From half past three to half past four is one . . .
10. To answer questions like **how many are left,** you . . .
11. To answer questions like **how many are gone,** you . . .
12. **Sum** is the name of the answer to an example in . . .
13. To find the cost of two or more things at different prices, you . . .
14. Four coins that all together equal a half dollar are one . . ., one . . ., and two . . .
15. When a pie is cut into 4 equal pieces, each piece is one . . . of the pie.
16. The money you get back when you give 25¢ to pay for a 15-cent balloon is the . . .
17. When a cake is cut into 3 equal pieces, each piece is one . . . of the cake.

Borrowing from Dollars

1. **Problem** Ann earned \$9.75. She bought a large doll for \$5.85. How much did Ann have left?

Explanation You can subtract 5¢ from 5¢ but you cannot subtract 8 dimes from 7 dimes. So you take one of the 9 dollars and change it to 10 dimes. 10 dimes + 7 dimes = 17 dimes. \$9.75 equals 8 dollars, 17 dimes, 5 cents. You can now subtract as shown below:

$$\begin{array}{r} \$9.75 \\ \underline{5.85} \end{array}$$

$$\begin{array}{rcrrrl} \$9.75 & = & 8 \text{ dollars} & 17 \text{ dimes} & 5 \text{ cents} & \\ \underline{5.85} & = & 5 \text{ dollars} & 8 \text{ dimes} & 5 \text{ cents} & \\ \cline{3-5} & & 3 \text{ dollars} & 9 \text{ dimes} & 0 \text{ cents,} & \text{or } \$3.90 \end{array}$$

Here is a shorter way to do the work.

Think, "5¢ from 5¢, 0¢." Write 0 in cents place. You cannot subtract 8 dimes from 7 dimes, so change \$1 to 10 dimes. Then 10 dimes + 7 dimes = 17 dimes. Think, "8 dimes from 17 dimes, 9 dimes." Write 9 in dimes place. You changed \$1 to 10 dimes, so there are only \$8 left. Think, "\$5 from \$8, \$3." Write 3 in dollars place. Ann had \$3.90 left.

$$\begin{array}{r} \cancel{\$}\overset{8}{\cancel{9}}.\overset{17}{\cancel{7}}5 \\ \underline{5.85} \\ \$3.90 \end{array}$$

Subtract. Tell what you think as you do each step:

2.	\$8.18 5.81	\$4.27 2.84	\$9.59 2.95	\$5.16 3.61	\$5.47 1.62
3.	\$9.16 4.24	\$6.88 3.90	\$6.27 1.33	\$7.23 6.40	\$8.14 6.52

More Practice. See ㉜ on page 324.

To the Teacher. See page 329 for the additive method of subtraction.

Borrowing from Hundreds

1. Problem Tom has 458 stamps all together. Jack has 395 stamps. How many fewer stamps has Jack than Tom?

Explanation Think, "5 from 8, 3." Write 3 in ones place. You cannot subtract 9 tens from 5 tens. So take 1 hundred from the 4 hundreds and change it to 10 tens. You now have 3 hundreds and 15 tens.

$$\begin{array}{r} {\scriptstyle 3\ 15} \\ \cancel{4}\cancel{5}8 \\ 395 \\ \hline 63 \end{array}$$

Think, "9 from 15, 6." Write 6 in tens place. Think, "3 from 3, 0." You do not write 0 because there is nothing more to subtract. The answer is 63. Jack has 63 fewer stamps than Tom.

Subtract these numbers. Write the small numbers if you need to:

2.	$\begin{array}{r}579\\498\\\hline\end{array}$	$\begin{array}{r}315\\234\\\hline\end{array}$	$\begin{array}{r}404\\231\\\hline\end{array}$	$\begin{array}{r}589\\397\\\hline\end{array}$	$\begin{array}{r}818\\443\\\hline\end{array}$	$\begin{array}{r}433\\392\\\hline\end{array}$
3.	$\begin{array}{r}758\\376\\\hline\end{array}$	$\begin{array}{r}549\\84\\\hline\end{array}$	$\begin{array}{r}709\\291\\\hline\end{array}$	$\begin{array}{r}647\\593\\\hline\end{array}$	$\begin{array}{r}908\\557\\\hline\end{array}$	$\begin{array}{r}760\\470\\\hline\end{array}$
4.	$\begin{array}{r}522\\250\\\hline\end{array}$	$\begin{array}{r}625\\561\\\hline\end{array}$	$\begin{array}{r}857\\162\\\hline\end{array}$	$\begin{array}{r}749\\72\\\hline\end{array}$	$\begin{array}{r}818\\771\\\hline\end{array}$	$\begin{array}{r}639\\355\\\hline\end{array}$
5.	$\begin{array}{r}279\\183\\\hline\end{array}$	$\begin{array}{r}708\\572\\\hline\end{array}$	$\begin{array}{r}333\\171\\\hline\end{array}$	$\begin{array}{r}429\\96\\\hline\end{array}$	$\begin{array}{r}608\\464\\\hline\end{array}$	$\begin{array}{r}957\\887\\\hline\end{array}$
6.	$\begin{array}{r}868\\783\\\hline\end{array}$	$\begin{array}{r}509\\286\\\hline\end{array}$	$\begin{array}{r}679\\484\\\hline\end{array}$	$\begin{array}{r}638\\265\\\hline\end{array}$	$\begin{array}{r}705\\654\\\hline\end{array}$	$\begin{array}{r}746\\186\\\hline\end{array}$

To the Teacher. See page 329 for the additive method of subtraction.

Watching Zeros

1. Study these subtraction examples and their answers:

633	300	612	416	460	307
508	180	8	209	56	250
125	120	604	207	404	57

2. Cover the answers in ex. 1 with a paper. Then try to write the answers on your paper. If you get a wrong answer, try to find why you got it wrong.

3. Tom and his father went on a trip of 300 miles. They rode 170 miles in the morning. How many more miles did they still have to ride?

4. Uncle Jim has 400 hens. Father has 340 hens. How many more hens has Uncle Jim than Father?

Subtract. Check your work by adding:

5.	315 109	542 437	103 73	805 412	800 780	549 469
6.	408 238	273 66	465 308	211 4	791 386	814 690
7.	634 328	400 360	243 105	809 550	328 130	500 200
8.	211 105	310 102	414 107	418 309	403 343	130 69
9.	906 56	904 714	609 355	163 39	494 405	613 7
10.	200 130	130 28	900 300	712 409	616 408	600 190

Mixed Practice

1. How much less than 746 is 175?
2. How much more than 144 is 404?
3. Find the sum and check: 99 + 82 + 44.
4. What does the number 8406 mean?
5. Write nine cents in two different ways.
6. Dick bought a cap for 79¢. He gave the man one dollar. Count the change the man gave Dick. Try to count it in two or three different ways. How much change did Dick get?

Add these numbers and check your work:

7.	373	247	495	188		
	125	216	294	520		
8.	457	696	259	567	137	238
	368	242	718	37	399	636

9. Mary spent 28¢ for cards, 36¢ for stamps, and 75¢ for a book. How much in all did Mary spend?
10. Mother had 1 pint and 1 quart of milk. How many glasses of milk did this make?

Subtract these numbers and check your work:

11.	897	452	266	130	429	800
	232	316	227	48	238	560
12.	965	518	677	376	256	979
	658	284	430	328	106	595

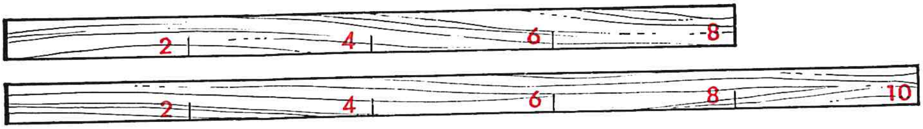
New Problems in Subtraction

Tom's Candy Cane

Ann's Candy Cane

1. Tom's candy cane is 9 inches long. Ann's candy cane is 12 inches long. How many inches longer is Ann's cane than Tom's?

▶ Ann's cane is 3 inches longer because 12 is 3 more than 9. To find the answer you subtract 9 from 12.



2. One board is 8 feet long and the other board is 10 feet long. How much shorter is the first board than the second board?

▶ The first board is 2 feet shorter than the second board. To find the answer you subtract 8 from 10.

To answer questions like how much longer than, how much shorter than, how much taller than, how much older than, how much more than, or how much less than, you subtract.

3. Jane is 15 years old. Her little sister Mary is 8 years old. How many years older is Jane than Mary?

4. Jim is 51 inches tall. His father is 72 inches tall. How many inches shorter is Jim than his father?

5. Jim is 51 inches tall. Ann is 43 inches tall. How many inches taller is Jim than Ann?

6. Betty is 11 years old. Jane is 15 years old. How many years younger is Betty than Jane?

7. Tom made an airplane 14 inches wide. Peter made one 18 inches wide. How many inches wider was Peter's airplane than Tom's?

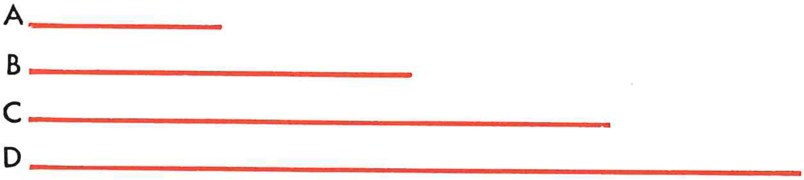
8. Sally has 245 buttons. Alice has 185 buttons. How many fewer buttons has Alice than Sally?

9. Dick practiced his music lesson 40 minutes today and 55 minutes yesterday. How many more minutes did he practice yesterday than today?

10. Bob has 200 marbles. Jack has 325 marbles. How many more marbles has Jack than Bob?

11. Bill and Joe went fishing. Bill caught a fish that was 16 inches long. Joe caught a fish that was 12 inches long. How many inches longer was Bill's fish than Joe's fish?

Measure the lines below and then answer the questions in ex. 12–15:



12. How many inches longer is line C than line A?

13. How many inches shorter is line B than line D?

14. How many inches more is line D than line A?

15. How many inches less is line B than line C?

Borrowing from Tens and Hundreds

1. **Problem** Billy had 540 stamps. He sold 175 of them. How many stamps did Billy have left?

$$\begin{array}{r} \overset{4}{\cancel{5}}\overset{\overset{13}{\cancel{3}}}{\cancel{4}}\overset{10}{\cancel{0}} \\ 175 \\ \hline 365 \end{array}$$

Explanation You cannot subtract 5 ones from 0 ones, so take 1 ten from 4 tens and change it to 10 ones. Now take 5 ones from 10 ones. Think, "5 from 10, 5." Write 5 in ones place.

You changed 1 ten to 10 ones, so there are only 3 tens left. You cannot subtract 7 tens from 3 tens, so take 1 hundred from 5 hundreds and change it to 10 tens. 10 tens + 3 tens = 13 tens. You can now take 7 tens from 13 tens. Think, "7 from 13, 6." Write 6 in tens place.

You changed 1 hundred to 10 tens, so there are only 4 hundreds left. Think, "1 from 4, 3." Write 3 in hundreds place. Billy had 365 stamps left.

After you have done some examples, **think** of the little numbers but do not write them. Write the example as shown at the right.

$$\begin{array}{r} 540 \\ 175 \\ \hline 365 \end{array}$$

Study these examples. Tell what you think in each step:

2.
$$\begin{array}{r} 612 \\ 378 \\ \hline 234 \end{array} \qquad \begin{array}{r} 932 \\ 465 \\ \hline 467 \end{array} \qquad \begin{array}{r} 315 \\ 286 \\ \hline 29 \end{array} \qquad \begin{array}{r} 522 \\ 97 \\ \hline 425 \end{array} \qquad \begin{array}{r} 720 \\ 584 \\ \hline 136 \end{array} \qquad \begin{array}{r} 254 \\ 178 \\ \hline 76 \end{array}$$

Copy in columns, subtract, and check:

3. 784 − 398   826 − 378   510 − 278

4. 423 − 136   553 − 394   675 − 177

More Practice. See ㉝ on page 324.

To the Teacher. See page 329 for the additive method of subtraction.

Problems and Practice

1. The children in our school will have a school circus. They have 635 tickets to sell. So far they have sold 278. How many more tickets are there to sell?

2. On Wednesday the school busses took 224 children to the airfield. On Thursday they took 198 children there. How many more children went on Wednesday than on Thursday?

3. On the two days 422 children went to the airfield. There were 225 girls. How many boys were there?

4. Subtract 655 from 942.

5. From 814 subtract 347.

Subtract these numbers. Check your work:

6.	542	841	352	931	665	556
	278	568	199	446	486	369
7.	861	313	879	733	954	781
	469	255	526	638	759	384
8.	392	421	777	627	365	773
	337	172	479	558	97	294

Copy the numbers in columns and subtract:

9. 674 – 187 514 – 466 644 – 395
10. 574 – 278 267 – 149 816 – 179
11. 793 – 697 309 – 205 768 – 618
12. 527 – 367 525 – 439 442 – 368

Oral Practice

1. Say the answers to the addition and subtraction facts on pages 87 and 88.

2. Add 5 to each of these numbers:

32 47 21 19 53 96 44 75 68

3. Add 6 to each number in ex. 2. Add 8. Add 9.

4. Subtract 10 from each number in ex. 2. Subtract 2.

Say the answers. Watch the signs:

5. 2 + 5 + 8 4 + 4 + 3 35 + 7

6. 3 + 4 + 5 6 + 3 + 8 28 − 6

7. 1 + 8 + 6 7 + 1 + 6 19 − 4

8. 5 + 4 + 5 2 + 4 + 5 59 + 6

9. 8 + 2 + 5 5 + 3 + 2 47 − 4

10. Count by 10's to 120; by 5's to 75.

11. What number means 8 tens? 10 tens?

12. Do 9 dimes + 6 cents equal 8 dimes + 16 cents?

13. Name the days of the week, beginning with today.

14. Name the day that comes after Friday.

15. How many nickels are equal to a half dollar?

16. Say the largest number that has 4 figures.

17. Say the smallest number that has 4 figures.

18. What coins could you get in change from a quarter after spending 12¢?

19. What coins could you get in change from a half dollar after spending 40¢?

Zeros in Subtraction

1. **Problem** Miss White had 500 sheets of paper in a package. She gave the children 328 sheets of it. How many sheets of paper were left?

Explanation Look at A at the right. You cannot take 8 ones from 0 ones. There are no tens, so you cannot change 1 ten to 10 ones. But you can think of 500 as 490 + 10 and write it as shown at B. Then think, "8 from 10, 2." Write 2 in ones place. Think, "2 from 9, 7." Write 7 in tens place. Think, "3 from 4, 1." Write 1 in hundreds place. The answer is 172. There were 172 sheets of paper left. Check the work.

$$\begin{array}{r} \text{A}\\ 500\\ \underline{328} \end{array}\qquad\qquad \begin{array}{r} \text{B}\\ 49\overset{10}{0}\\ \underline{328}\\ 172 \end{array}$$

Subtract these numbers and check your work:

2. $$\begin{array}{rrrrrr} 600 & 500 & 940 & 570 & 200 & 490\\ \underline{284} & \underline{406} & \underline{253} & \underline{172} & \underline{39} & \underline{191} \end{array}$$

3. $$\begin{array}{rrrrrr} 300 & 802 & 766 & 700 & 182 & 600\\ \underline{275} & \underline{667} & \underline{578} & \underline{318} & \underline{96} & \underline{125} \end{array}$$

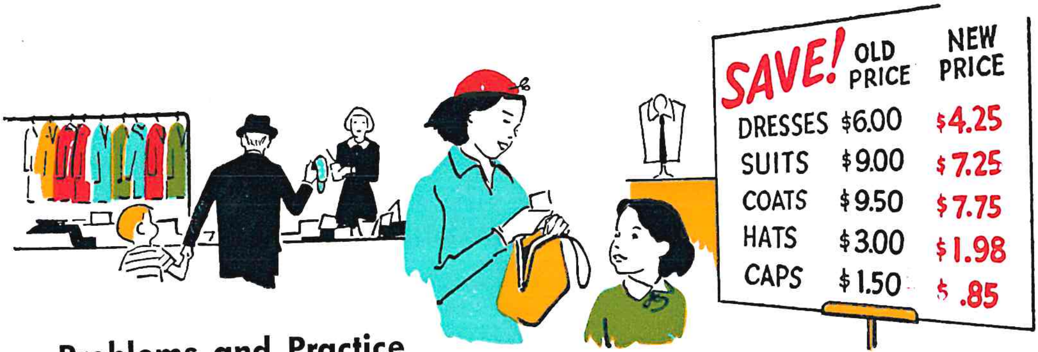
4. $$\begin{array}{rrrrrr} 800 & 300 & 900 & 404 & 602 & 550\\ \underline{407} & \underline{235} & \underline{346} & \underline{315} & \underline{558} & \underline{284} \end{array}$$

5. $$\begin{array}{rrrrrr} 411 & 600 & 707 & 500 & 300 & 615\\ \underline{93} & \underline{399} & \underline{478} & \underline{214} & \underline{82} & \underline{576} \end{array}$$

6. $$\begin{array}{rrrrrr} 500 & 300 & 800 & 400 & 905 & 625\\ \underline{347} & \underline{165} & \underline{528} & \underline{213} & \underline{699} & \underline{498} \end{array}$$

More Practice. See ㉞ on page 324.

To the Teacher. See page 329 for the additive method of subtraction.



Problems and Practice

1. Look at these old and new prices for children's clothes. How much can Mary save on a dress that used to cost $6.00?
2. Jack bought a suit for $7.25. It used to cost $9.00. How much money did he save?
3. The old price of a coat is $9.50. The new price is $7.75. How much can Betty save on a coat?
4. A girl's hat costs $1.98. A boy's cap costs $.85. How much more does the hat cost than the cap?

Subtract and check:

5.	692	440	508	624	836	700
	167	297	269	465	438	385
6.	535	700	312	606	400	944
	468	247	228	299	374	779
7.	800	434	745	900	823	307
	531	157	667	518	388	159
8.	406	500	735	621	750	800
	387	196	349	399	469	652
9.	700	824	807	613	500	745
	123	778	278	585	369	546

Dollars and Cents

1. Jim went to the store for his mother. He spent $2.86, $.78, and $1.65. How much in all did he spend?

2. Susan had $3.50 in her bank. Then she put in the $5.00 she got for her birthday. Today Susan put $.75 more in her bank. All together, how much has Susan in her bank?

3. Dick had $1.00 when he went to the movies. The ticket cost $.45. How much change did Dick get?

Add up. Check your work by adding down:

4.	$2.47	$1.59	$4.26	$1.63	$2.57
	1.56	4.68	3.00	.58	1.22
	4.77	2.37	1.89	2.46	4.18
5.	$4.99	$7.46	$1.83	$2.00	$8.78
	2.73	.64	5.70	6.07	2.54
	2.33	1.57	1.48	4.96	.54

6. Ann saw a sweater she wants. It costs $5.00 but Ann has only $3.77. How much more money does she need if she buys the sweater?

7. Bill earned $1.75 last week and $2.25 this week. How much less did Bill earn last week than this week?

Subtract. Check your work by adding:

8.	$3.56	$8.50	$8.05	$5.00	$7.15
	1.80	2.95	4.92	3.34	5.39
9.	$4.88	$7.00	$4.50	$6.17	$3.00
	4.39	4.57	2.52	3.99	.76

Chapter Review

1. Use the sign $ and a decimal point to write each of these money numbers:

4 dollars and fifteen cents
7 dollars and fifty cents
1 dollar and eight cents
5 dollars
35 cents
70 cents

2. Write twelve cents in three different ways.

3. Read these numbers in two ways: 3600 9400

4. What does the number 4629 mean?

5. Make change from 50¢ for things that cost:

31¢ 25¢ 43¢ 17¢ 12¢ 5¢ 8¢

6. How many glasses can you fill with 1 quart of milk? with 1 pint of milk?

7. Read these numbers: X, IIII, VIII, V, XII.

8. Write in Roman numbers: 9, 3, 7, 11, 4, 6.

Add these numbers and check:

9.	145 679	574 265	226 114	329 491	307 403	162 234
10.	568 349	235 477	416 428	435 165	126 432	583 172

Subtract these numbers and check:

11.	826 353	573 557	289 162	376 287	100 76	844 197
12.	734 651	800 668	779 288	965 486	650 252	341 234

1. Jim is 9 years old. His brother is 15 years old. How many years older than Jim is his brother?
2. Last week Susan saved a half dollar, 3 dimes, and 3 nickels. How many cents in all did Susan save?
3. Jack had $2.00. At the circus he spent all but $.22. How much money did Jack spend?
4. Peggy gave the man a dollar to pay for a 15-cent ball. Write the coins that the man could have given her in change. How much change did Peggy get?
5. At the store Bob bought eggs for 65¢, apples for 29¢, and bread for 19¢. How much did Bob spend?
6. There are 362 children in our school. This week 218 children went to see a big farm. The rest will go next week. How many children will go next week?
7. Jane made 36 Christmas cards last week. Alice made 30 cards in the same time. How many more cards did Jane make than Alice?
8. Peter has some hens. Last week he got 81 eggs. He gave his mother 15 eggs and sold the rest. How many eggs did Peter sell?
9. Mary ate lunch at school. She paid 15¢ for an egg sandwich, 8¢ for milk, 5¢ for an apple, and 2¢ for a cookie. How much did Mary's lunch cost?
10. Betty and Joe want to spend $3.00 for a birthday present for Mother. They have saved $1.87 so far. How much more do they need to save?

Count 10 for each problem you have right.

How Much Have You Learned?

If you miss more than one example in a row, turn to the Practice Pages for that row.

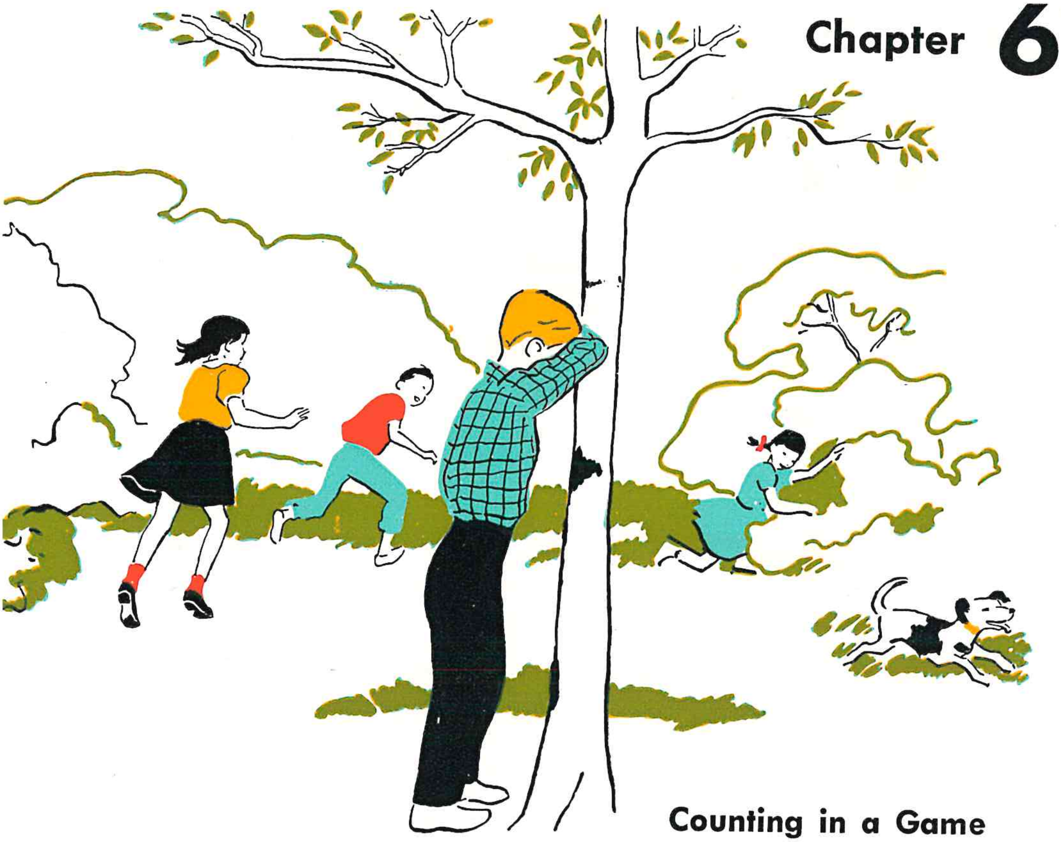
Add these numbers and check your work:

						Practice Pages
1.	635 248	149 323	245 416	148 534	312 179	162–164
2.	191 686	362 353	265 564	592 247	183 376	166–168
3.	285 479	679 257	386 128	438 475	396 219	170–172
4.	$2.24 1.76	$7.07 2.09	$1.98 1.02	$5.57 1.48		175

Subtract these numbers and check your work:

5.	392 148	674 216	882 555	768 249	973 337	181, 182
6.	876 485	429 292	647 373	314 144	745 451	184, 185
7.	293 79	503 330	900 600	415 206	420 370	186
8.	981 687	623 256	925 329	533 165	872 693	190, 191
9.	500 57	801 726	700 176	900 294	560 295	193

Chapter 6



Counting in a Game

1. The children are playing a game. Bill is counting while the children hide. He counts by 5's to 100. Can you count by 5's to 100? Try it.

2. Betty likes to count by 2's when it is her turn. She counts like this: 2, 4, 6, 8, 10, 12, and so on to 50. Start at 12 and count by 2's to 50. Can you count by 2's to 100?

3. Begin with 24 and count by 2's to 60.

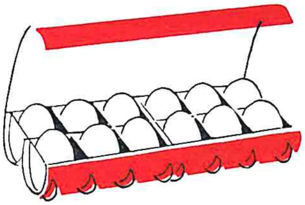
4. Begin with 30 and count by 5's to 85.

5. Begin with 45 and count by 10's to 95.

6. Begin with 70 and count by 2's to 110.

Learning about the 2's

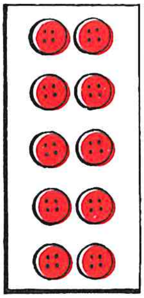
1. Look at the stars above. Count them by 2's like this: 2, 4, 6, . . ., and so on. How many 2's are there? How many are nine 2's?



2. Count the eggs in the box by 2's. How many are six 2's?

3. Bill says he can find how many eggs there are in the box by adding. He writes the 2's in a column as shown at the right. How many are six 2's? You can count or add to find that six 2's are 12.

$$\begin{array}{r}2\\2\\2\\2\\2\\2\\\hline 12\end{array}$$



4. Look at the buttons. There are five rows with 2 buttons in each row. How many buttons are there? How many are five 2's? Count or add to find the answer.

5. On your paper draw 4 groups of dots with 2 dots in each group. How many dots did you draw? Count them by 2's. How many are four 2's?

Tell the answers. Draw dots if you need help:

6. Five 2's are . . . Six 2's are . . .
7. Nine 2's are . . . Eight 2's are . . .
8. Four 2's are . . . Three 2's are . . .
9. Two 2's are . . . Seven 2's are . . .

The 2's in Multiplication

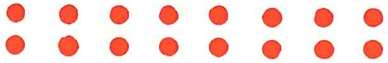
1. There are 2 shoes in a pair of shoes. Count the pairs of shoes. How many pairs are there? How many shoes are there in 7 pairs? How many are seven 2's?

2. How many are 2 + 2 + 2 + 2 + 2 + 2 + 2? Miss Hill says that counting and adding are both good ways to get the answer. She says that another way to get the answer is to remember that seven 2's are 14. When you do this, you are **multiplying** 2 by 7.

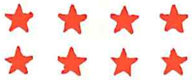
3. A short way to write "seven 2's are 14" is like this: 7 × 2 = 14. The sign × means **times.** You read this "7 **times** 2 **are** 14."

4. When you learn that 7 × 2 = 14, you are learning a **multiplication fact.**

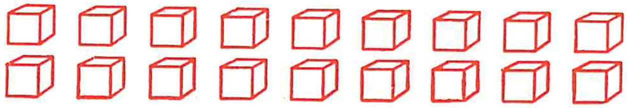
A



B



C



5. Which picture above shows the answer to 9 times 2? How many are nine 2's? How many are 9 × 2?

6. Which picture shows 4 times 2? How many are four 2's? 4 × 2? What multiplication fact does A show?

Tell the answers:

7. Nine 2's are . . . 9 × 2 = . . . 7 × 2 = . . .
8. Five 2's are . . . 5 × 2 = . . . 8 × 2 = . . .
9. Six 2's are . . . 6 × 2 = . . . 3 × 2 = . . .

The 2's in Multiplication

1. Another way to write 5 × 2 = 10 is to write 5 under 2, as shown at the right. This is read "5 times 2 are 10." Another way to say that "5 times 2 are 10" is to say that you **multiply** 2 by 5. The answer 10 is called the **product.**

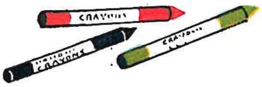
$$\begin{array}{r} 2 \\ \times 5 \\ \hline 10 \end{array}$$

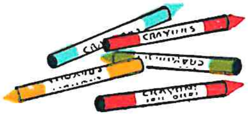
2. Learn these multiplication facts:

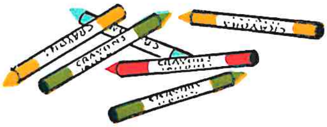
$$\begin{array}{r} 2 \\ 1 \\ \hline 2 \end{array} \quad \begin{array}{r} 2 \\ 2 \\ \hline 4 \end{array} \quad \begin{array}{r} 2 \\ 3 \\ \hline 6 \end{array} \quad \begin{array}{r} 2 \\ 4 \\ \hline 8 \end{array} \quad \begin{array}{r} 2 \\ 5 \\ \hline 10 \end{array} \quad \begin{array}{r} 2 \\ 6 \\ \hline 12 \end{array} \quad \begin{array}{r} 2 \\ 7 \\ \hline 14 \end{array} \quad \begin{array}{r} 2 \\ 8 \\ \hline 16 \end{array} \quad \begin{array}{r} 2 \\ 9 \\ \hline 18 \end{array}$$

3. Jim buys marbles at 2¢ each. How much does he pay for 4 marbles? for 7 marbles? for 8 marbles?

4. Susan buys crayons for 2¢ each. How much must she pay for 3 crayons? for 5 crayons? for 6 crayons?







5. Multiply these numbers:

$$\begin{array}{r} 2 \\ 8 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ 5 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ 1 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ 6 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ 4 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ 9 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ 2 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ 7 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ 3 \\ \hline \end{array}$$

6. Here is another way to write the multiplication facts for 2's. Tell the answers:

1 × 2 = . . .

2 × 2 = . . .

3 × 2 = . . .

4 × 2 = . . .

5 × 2 = . . .

6 × 2 = . . .

7 × 2 = . . .

8 × 2 = . . .

9 × 2 = . . .

7. Draw a picture of pennies to show 4 groups with 2 pennies in each group. Write the multiplication fact that shows how many pennies there are.

Problems about 2's

1. Find the cost of 3 dolls at \$2 each.
2. Find the cost of 6 cookies at 2¢ each.
3. At 2¢ each, how much will 7 stamps cost?
4. At 2¢ each, how much will 5 pencils cost?
5. At 2¢ each, how much will 9 lollipops cost?
6. Mary is making sandwiches. She needs 2 pieces of bread for each one. How many pieces of bread does she need for 8 sandwiches? What is the multiplication fact you use to work this problem?
7. At the park Jack saw 2 bears in each cage. How many bears did he see in 4 cages? What multiplication fact do you use in this problem?
8. Mother bought 2 sweaters for the children. She paid \$2 for each sweater. How much did she pay for the 2 sweaters? What multiplication fact do you use?
9. Make up a problem to go with each of the multiplication facts below. Ask a friend to tell you the answers.

6 × 2 = . . . 9 × 2 = . . . 3 × 2 = . . .

8 × 2 = . . . 5 × 2 = . . . 7 × 2 = . . .

Say the answers:

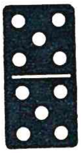
10. Five 2's =	3 times 2 =	6 × 2 =
11. Six 2's =	9 times 2 =	8 × 2 =
12. Four 2's =	7 times 2 =	5 × 2 =
13. Two 2's =	6 times 2 =	7 × 2 =
14. Nine 2's =	8 times 2 =	4 × 2 =

9 New Multiplication Facts

A

B

C


D

1. Picture A above shows two 2's. Picture B shows two 3's. C shows two 4's. What does D show? Number pictures like these are called **doubles.** You can write the doubles as addition facts, like this:

$$\begin{array}{rrrrrrrrr} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ +1 & +2 & +3 & +4 & +5 & +6 & +7 & +8 & +9 \\ \hline 2 & 4 & 6 & 8 & 10 & 12 & 14 & 16 & 18 \end{array}$$

The first fact shows that two 1's are 2. Another way to write "two 1's are 2" is like this: $2 \times 1 = 2$. The last fact shows that two 9's are 18. You can also write it $2 \times 9 = 18$. You see that you can write each double as an addition fact or as a multiplication fact.

2. Write all the multiplication facts that can be made from the addition facts in ex. 1.

Say the answers to these multiplication facts. If you do not know an answer, look at the addition facts in ex. 1:

3. 2 × 5 = . . . 2 × 9 = . . . 2 × 2 = . . .

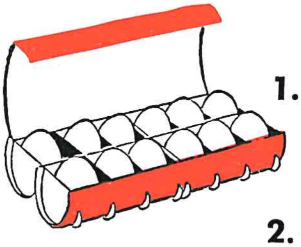
4. 2 × 8 = . . . 2 × 6 = . . . 2 × 4 = . . .

5. 2 × 3 = . . . 2 × 1 = . . . 2 × 7 = . . .

6. Learn these new multiplication facts:

$$\begin{array}{rrrrrrrrr} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\ 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ \hline 2 & 4 & 6 & 8 & 10 & 12 & 14 & 16 & 18 \end{array}$$

Pairs of Multiplication Facts



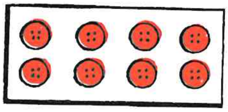
1. Here is an egg box with a dozen eggs in it. How many eggs are there in a dozen?

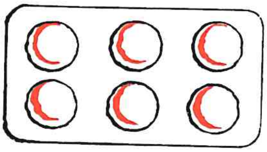
2. You see there are 2 eggs in each row and there are 6 rows of eggs. How many are six 2's?

3. Look at the eggs again. There are 6 eggs on one side of the box and 6 along the other side. How many are two 6's?

4. The eggs show two multiplication facts: 6 × 2 = 12 and 2 × 6 = 12. These facts make a pair of facts.

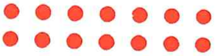
5. How many buttons do you see on the card? What two multiplication facts does the card show?

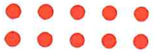


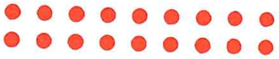


6. How many cupcakes do you see in this pan? Write the two multiplication facts that the picture shows.

7. Look at the dots below. What pair of multiplication facts goes with each group of dots?







Tell the number that goes in each space:

8. 3 × 2 = . . ., so 2 × 3 = . . .   Two 5's are . . .

9. 9 × 2 = . . ., so 2 × 9 = . . .   Four 2's are . . .

10. 5 × 2 = . . ., so 2 × 5 = . . .   Six 2's are . . .

11. 7 × 2 = . . ., so 2 × 7 = . . .   Two 9's are . . .

12. 8 × 2 = . . ., so 2 × 8 = . . .   Five 2's are . . .

What to Do If You Forget

1. On page 205 you learned that multiplication facts come in pairs. 4 × 2 = 8 and 2 × 4 = 8 make a pair of multiplication facts. The numbers in 4 × 2 are the same as those in 2 × 4 but they are **turned around.** 4 × 2 and 2 × 4 both have the same product, which is 8.

$$\begin{array}{r} 2 \\ \times 4 \\ \hline 8 \end{array} \qquad \begin{array}{r} 4 \\ \times 2 \\ \hline 8 \end{array}$$

2. You see that 2 × 8 and 8 × 2 also make a pair of multiplication facts. Do these facts both have the same product?

$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array} \qquad \begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

3. What fact goes with 2 × 7 to make a pair? What is the answer to both facts?

4. Peter forgets the answer to 9 × 2. He turns the numbers around and gets 2 × 9. Peter remembers that 2 × 9 = 18. This shows him that 9 × 2 = 18.

5. Susan forgets the answer to 6 × 2. She turns the numbers around and gets 2 × 6. What is the answer to 2 × 6? Then what is the answer to 6 × 2?

If you forget the answer to a multiplication fact, turn the numbers around. Then try to multiply them.

What numbers go in the spaces?

6. 3 × 2 = 2 × . . .   9 × 2 = 2 × . . .
7. 7 × 2 = 2 × . . .   2 × 4 = 4 × . . .
8. 2 × 1 = 1 × . . .   8 × 2 = 2 × . . .

Write the numbers in columns. Then add and check:

1. 29 + 86 + 46 | 64 + 36 + 57 | 49 + 76 + 55
2. 72 + 99 + 84 | 46 + 87 + 75 | 69 + 40 + 97
3. 78 + 88 + 33 | 59 + 24 + 37 | 73 + 75 + 39
4. At the store Jack spent 34¢, 32¢, and 85¢. How much did Jack spend all together?
5. Susan spent 36¢, 82¢, and 13¢ at the school store. How much in all did Susan spend?

Add these numbers and check your work:

6.	93	85	721	745	595	442
	48	16	246	165	234	286
7.	83	95	467	377	531	698
	69	78	334	253	399	263

8. Use the examples in ex. 6–7 as subtraction examples. Subtract and check your work.
9. Last week Jim's father got 382 eggs from his hens. He sold 360 eggs. How many eggs did he have left? Did he have more than or less than 1 dozen left?

Subtract and check your work:

10.	94	88	698	469	490	283
	65	29	564	180	482	185
11.	75	76	954	287	327	362
	68	15	466	275	179	283

More Practice. See ㉟ on page 325.

Problems and Practice

1. Betty bought 6 post cards. Each one cost 2¢. How much did she spend for the cards?

2. Jim wants to save $2 each week. How much will he have at the end of 4 weeks?

3. Mother bought 2 dresses for Mary. She paid $6 for each dress. How much did Mary's dresses cost?

4. Find the cost of these things:

3 pencils at 2¢ each
6 stamps at 2¢ each
2 stamps at 3¢ each
2 apples at 6¢ each

4 marbles at 2¢ each
2 balloons at 5¢ each
2 stamps at 7¢ each
2 oranges at 9¢ each

Say the answers:

5. 2 × 3 = . . .   2 × 8 = . . .   2 × 2 = . . .

6. 2 × 5 = . . .   2 × 9 = . . .   2 × 6 = . . .

7. 2 × 1 = . . .   2 × 7 = . . .   2 × 4 = . . .

8. In ex. 5 to 7, turn the numbers around in each fact. Then say the answers again.

Multiply these numbers:

9.	2	2	2	9	2	2	3	2	2
	9	8	5	2	7	2	2	1	4

10.	2	2	4	6	8	1	7	2	5
	2	6	2	2	2	2	2	3	2

11. In ex. 9 and 10, multiply the numbers again and add 1 to each answer. In ex. 9 the first answer is 19.

1. What is the cost of eight 2-cent stamps?

2. Read these numbers: X, IV, VIII, XII, VI.

3. Tell what each of these numbers means:

985 700 1586 3800 4703 2009

Tell the numbers to put in the spaces:

4. 1 dime = . . . cents 1 quart = . . . pints
5. 1 foot = . . . inches 2 quarts = . . . pints
6. 1 dollar = . . . cents 1 dozen = . . . things
7. 2 dimes = . . . cents 1 quarter = . . . nickels

Say the answers. Watch the signs:

8.
$$\begin{array}{rrrrrrr} 9 & 12 & 10 & 9 & 7 & 11 & 8 \\ +8 & -9 & -7 & +5 & +8 & -7 & +4 \\ \hline \end{array}$$

9.
$$\begin{array}{rrrrrrr} 9 & 4 & 16 & 15 & 13 & 6 & 10 \\ +4 & +7 & -9 & -6 & -6 & +8 & -4 \\ \hline \end{array}$$

10. Find the sum of 4¢, 3¢, 7¢, and 5¢.

Multiply these numbers:

11.
$$\begin{array}{ccccccccc} 2 & 3 & 8 & 2 & 2 & 9 & 1 & 2 & 6 \\ 6 & 2 & 2 & 2 & 4 & 2 & 2 & 8 & 2 \\ \hline \end{array}$$

12.
$$\begin{array}{ccccccccc} 2 & 2 & 7 & 2 & 2 & 5 & 2 & 8 & 4 \\ 1 & 5 & 2 & 9 & 3 & 2 & 7 & 2 & 2 \\ \hline \end{array}$$

13. Do ex. 11 and 12 again and add 1 to each answer. In ex. 11 the first answer is 13.

Making Cookies

1. **Problem** The children are making cookies to sell. Each pan holds 24 cookies. How many cookies can be baked in 2 pans?

$$\begin{array}{r} 24 \\ 24 \\ \hline 48 \end{array}$$

Explanation You can find the answer by adding 24 and 24.

Another way is to multiply 24 by 2, as shown at the right. Think, "2 × 4 ones = 8 ones." Write 8 in ones place. Think, "2 × 2 tens = 4 tens." Write 4 in tens place. The answer is 48. The children can bake 48 cookies in 2 pans.

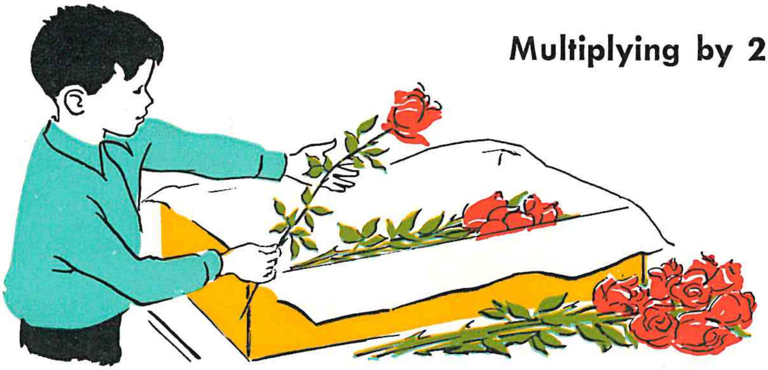
$$\begin{array}{r} 24 \\ \times 2 \\ \hline 48 \end{array}$$

To check, go over the work. If you get the same answer again, call the work right.

Multiply. Check your work by going over it:

2. $\begin{array}{r} 23 \\ 2 \\ \hline \end{array}$ $\quad\begin{array}{r} 14 \\ 2 \\ \hline \end{array}$ $\quad\begin{array}{r} 31 \\ 2 \\ \hline \end{array}$ $\quad\begin{array}{r} 12 \\ 2 \\ \hline \end{array}$ $\quad\begin{array}{r} 34 \\ 2 \\ \hline \end{array}$ $\quad\begin{array}{r} 21 \\ 2 \\ \hline \end{array}$ $\quad\begin{array}{r} 423 \\ 2 \\ \hline \end{array}$ $\quad\begin{array}{r} 143 \\ 2 \\ \hline \end{array}$

More Practice. See ㊱ on page 325.



Multiplying by 2

1. **Problem** Dick helps his father pack boxes of flowers to send to the city. He puts 72 flowers in each large box. How many flowers does he pack in 2 large boxes?

Explanation You must multiply 72 by 2. Remember that 72 means 7 tens and 2 ones.

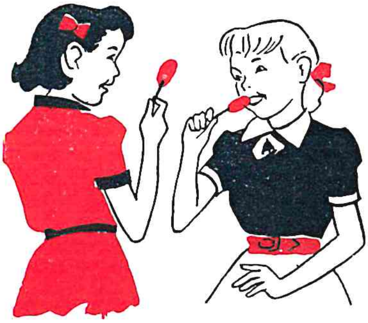
Think, "2 × 2 ones = 4 ones." Write 4 in ones place. Think, "2 × 7 tens = 14 tens, or 1 hundred and 4 tens." Write 4 in tens place and 1 in hundreds place. The answer is 144. There are 144 flowers in 2 boxes.

$$\begin{array}{r}72\\ 2\\ \hline 144\end{array}$$

Multiply. Check your work by going over it:

2.	91 2	62 2	54 2	41 2	13 2	134 2	224 2
3.	52 2	83 2	92 2	73 2	34 2	342 2	231 2
4.	81 2	74 2	53 2	82 2	21 2	333 2	413 2
5.	94 2	61 2	84 2	93 2	43 2	634 2	732 2
6.	32 2	64 2	42 2	71 2	63 2	124 2	223 2

Using 1's in Multiplication



1. Two girls bought lollipops. Each girl bought 1 lollipop. How many in all did they buy? How many are 2 × 1?

2. Four boys each bought 1 pencil. How many pencils did they buy? How many are 4 × 1?

3. Jim bought 6 pieces of candy. Each piece cost 1¢. What did Jim pay for them? How many are 6 × 1?

4. You see how easy it is to multiply 1 by a number.

Any number times 1 equals that number.

What numbers should be put in the spaces?

5. 3 × 1 = 1 × . . . 5 × 1 = 1 × . . . 8 × 1 = 1 × . . .

6. 7 × 1 = 1 × . . . 9 × 1 = 1 × . . . 6 × 1 = 1 × . . .

7. Here are all the multiplication facts with 1's:

$$\begin{array}{r}1\\2\\\hline 2\end{array}\quad\begin{array}{r}2\\1\\\hline 2\end{array}\qquad\begin{array}{r}1\\3\\\hline 3\end{array}\quad\begin{array}{r}3\\1\\\hline 3\end{array}\qquad\begin{array}{r}1\\4\\\hline 4\end{array}\quad\begin{array}{r}4\\1\\\hline 4\end{array}\qquad\begin{array}{r}1\\5\\\hline 5\end{array}\quad\begin{array}{r}5\\1\\\hline 5\end{array}\qquad\begin{array}{r}1\\1\\\hline 1\end{array}$$

$$\begin{array}{r}1\\6\\\hline 6\end{array}\quad\begin{array}{r}6\\1\\\hline 6\end{array}\qquad\begin{array}{r}1\\7\\\hline 7\end{array}\quad\begin{array}{r}7\\1\\\hline 7\end{array}\qquad\begin{array}{r}1\\8\\\hline 8\end{array}\quad\begin{array}{r}8\\1\\\hline 8\end{array}\qquad\begin{array}{r}1\\9\\\hline 9\end{array}\quad\begin{array}{r}9\\1\\\hline 9\end{array}$$

Multiply. Say the answers:

8. $\begin{array}{r}11\\6\\\hline\end{array}\quad\begin{array}{r}11\\2\\\hline\end{array}\quad\begin{array}{r}11\\9\\\hline\end{array}\quad\begin{array}{r}11\\5\\\hline\end{array}\quad\begin{array}{r}24\\1\\\hline\end{array}\quad\begin{array}{r}11\\3\\\hline\end{array}\quad\begin{array}{r}85\\1\\\hline\end{array}\quad\begin{array}{r}11\\4\\\hline\end{array}$

Multiplying Larger Numbers

1. **Problem** Jack sold 4 dozen eggs last week. How many eggs are there in 4 dozen?

Explanation You can find the answer by multiplying. Think, "4 × 2 ones = 8 ones." Write 8 in ones place. Think, "4 × 1 ten = 4 tens." Write 4 in tens place. The answer is 48. Jack sold 48 eggs in all.

$$\begin{array}{r}12\\ \underline{4}\\ 48\end{array}$$

2. **Problem** Last week our school gave a play 3 times. Each time 212 people came to see it. How many people in all saw the school play?

Explanation Multiply to find the answer. Think, "3 × 2 ones = 6 ones." Write 6 in ones place. Think, "3 × 1 ten = 3 tens." Write 3 in tens place. Think, "3 × 2 hundreds = 6 hundreds." Write 6 in hundreds place. The answer is 636. There were 636 people in all.

$$\begin{array}{r}212\\ \underline{3}\\ 636\end{array}$$

Check the work by going over it.

Multiply and check your work:

3. $\begin{array}{r}21\\ \underline{4}\end{array}$ $\quad\begin{array}{r}11\\ \underline{8}\end{array}$ $\quad\begin{array}{r}61\\ \underline{2}\end{array}$ $\quad\begin{array}{r}22\\ \underline{4}\end{array}$ $\quad\begin{array}{r}231\\ \underline{2}\end{array}$ $\quad\begin{array}{r}214\\ \underline{2}\end{array}$ $\quad\begin{array}{r}111\\ \underline{8}\end{array}$

4. $\begin{array}{r}22\\ \underline{3}\end{array}$ $\quad\begin{array}{r}14\\ \underline{2}\end{array}$ $\quad\begin{array}{r}11\\ \underline{4}\end{array}$ $\quad\begin{array}{r}12\\ \underline{3}\end{array}$ $\quad\begin{array}{r}415\\ \underline{1}\end{array}$ $\quad\begin{array}{r}114\\ \underline{2}\end{array}$ $\quad\begin{array}{r}413\\ \underline{2}\end{array}$

5. $\begin{array}{r}43\\ \underline{2}\end{array}$ $\quad\begin{array}{r}11\\ \underline{7}\end{array}$ $\quad\begin{array}{r}21\\ \underline{3}\end{array}$ $\quad\begin{array}{r}22\\ \underline{2}\end{array}$ $\quad\begin{array}{r}111\\ \underline{6}\end{array}$ $\quad\begin{array}{r}321\\ \underline{2}\end{array}$ $\quad\begin{array}{r}112\\ \underline{4}\end{array}$

6. $\begin{array}{r}11\\ \underline{9}\end{array}$ $\quad\begin{array}{r}86\\ \underline{1}\end{array}$ $\quad\begin{array}{r}12\\ \underline{2}\end{array}$ $\quad\begin{array}{r}21\\ \underline{5}\end{array}$ $\quad\begin{array}{r}113\\ \underline{2}\end{array}$ $\quad\begin{array}{r}243\\ \underline{2}\end{array}$ $\quad\begin{array}{r}122\\ \underline{3}\end{array}$

Multiplying Money Numbers

1. **Problem** The children are making toys to sell. They want to make money for school movies. Yesterday Tom bought 2 cans of white paint at $.73 a can. How much did the paint cost?

   Explanation Multiply $.73 by 2, like this:

   Think, "2 × 3¢ = 6¢." Write 6 in cents place. Think, "2 × 7 dimes = 14 dimes. 14 dimes equal 1 dollar and 4 dimes." Write 4 in dimes place and 1 in dollars place.

   $$\begin{array}{r} \$.73 \\ 2 \\ \hline \$1.46 \end{array}$$

   Put the sign $ and the decimal point in the answer. The point comes between the dollars and the dimes. The answer is $1.46. How much did the paint cost?

2. **Problem** The children will sell the boats they make for $1.22 each. How much will they get for 4 boats?

   Explanation Think, "4 × 2¢ = 8¢." Write 8 in cents place. Think, "4 × 2 dimes = 8 dimes." Write 8 in dimes place. Tell how to finish the multiplication.

   $$\begin{array}{r} \$1.22 \\ 4 \\ \hline \$4.88 \end{array}$$

3. Find the cost of 2 cans of paint at $.34 each.
4. Find the cost of 3 hammers at $1.32 each.
5. At $3.12 each, 2 airplanes sell for how much?
6. Find the cost of 2 balls of string at $.23 each.

7. Some girls are making toy animals to sell. They get $1.21 for each animal. How much do they get for 2 animals? for 3 animals? for 4 animals?

Multiply. Check your work by going over it:

8.	$.21	$.54	$3.14	$1.43	$4.11
	2	2	2	2	2
9.	$.33	$.12	$2.21	$4.21	$3.42
	2	3	3	2	2
10.	$.63	$.21	$1.23	$2.22	$4.34
	2	8	2	4	2
11.	$.81	$.92	$4.23	$1.11	$2.12
	2	2	2	7	4

Learning When to Multiply

1. Jack bought 2 bags of marbles. In each bag there were 24 marbles. How many marbles did Jack buy?
   ▶ You see Jack bought 2 times 24 marbles. How many marbles did he buy?
2. Ann bought 4 boxes of paper cups. There were 12 cups in each box. How many cups did Ann buy?
3. Mother bought 2 boxes of cookies. There were 34 cookies in each box. How many cookies did she buy?
4. There are 144 sheets of paper in a package. How many sheets are there in 2 packages?

Suppose you know the number of things in one group. You multiply to find the number of things in two or more groups of the same kind.

5. Bill bought 2 dozen oranges. He paid 43¢ a dozen for them. How much did the oranges cost?
6. Mary paid 32¢ each for 2 tickets to the movies. Jane went with her. How much did the tickets cost?
7. Find the cost of 4 bottles of milk at 22¢ each.
8. Find the cost of 2 boxes of crayons at 23¢ each.

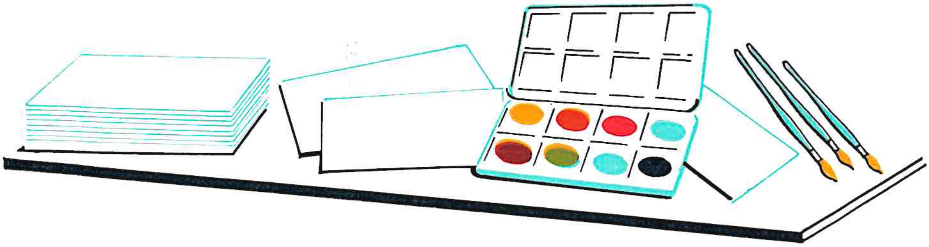
Suppose you know the cost of one thing. You multiply to find the cost of two or more things of the same kind.

Oral Problems

Try to get the answers without using pencil and paper. Tell whether you add, subtract, or multiply to find each answer:

1. Find the cost of two 3-cent pencils.
2. Find the cost of a 5-cent toy and a 7-cent ball.
3. Bill had a quarter. After he bought a balloon, he had 10 cents left. Find the cost of the balloon.
4. At Joe's party there were 16 children. 8 of them were girls. How many boys were there?
5. Jane spent 3¢, 5¢, 1¢, and 8¢ at the school store. How much in all did Jane spend?
6. Dick has a dime. If he spends 8¢ for ice cream, how much money will he have left?
7. Mary drinks 2 glasses of milk a day. How many glasses of milk does she drink in 7 days?
8. Jack has 8¢ in his pocket and a nickel in his hand. How much money has Jack?
9. Alice bought two 5-cent candy bars. How much did she spend for them?
10. Tom needs 15¢ for paper. He has 9¢ now. How much more does Tom need to buy the paper?
11. Sally bought 6 lollipops. At 2¢ each, how much did she pay for the lollipops?
12. Mother had 1 dozen eggs. She used 5 of them today. How many eggs are left?
13. Bob is 9 years old. His sister is 14 years old. How many years older than Bob is his sister?

Problems and Practice



1. Ann bought a box of paints for $.72. She gave the man $1.00. How much change did she get?
▶ You can find the answer by adding the coins Ann got back. You can also find it by subtracting the cost of the paints from $1.00.

2. Peter bought roller skates for $4.39. How much change did he get from $5.00?

3. Father bought 2 story books for the children. The books cost $1.34 each. How much did Father pay for the 2 books?

Find the answers. Follow the signs:

4.	254 +132	348 +506	292 +185	166 +257	364 +136	209 +396
5.	438 +425	650 +250	487 +429	470 +324	557 +208	172 +328
6.	356 −104	474 −229	828 −164	912 −689	204 −108	915 −729
7.	683 −549	300 −256	459 −269	586 −398	600 −245	490 −397
8.	$.34 ×2	$.42 ×2	$.54 ×2	$3.14 ×2	$1.32 ×2	$4.13 ×2

Learning about the 3's

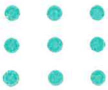
ONE CENT UNITED STATES OF AMERICA

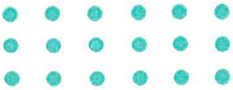
1. There are 3 pennies in each group above. To find how many pennies there are in all, add four 3's, as shown at the right. How many are four 3's? How many are 4 × 3?

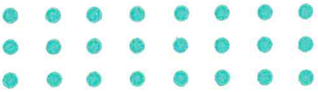
$$\begin{array}{r}3\\3\\3\\\underline{3}\end{array}$$

2. You can also find how many pennies there are by counting by 3's. Say "3, 6, 9, 12." How far can you count by 3's? Try it.

3. When you say "four 3's are 12," you are **multiplying.** You can write "four 3's are 12" like this: 4 × 3 = 12.


A


B


C

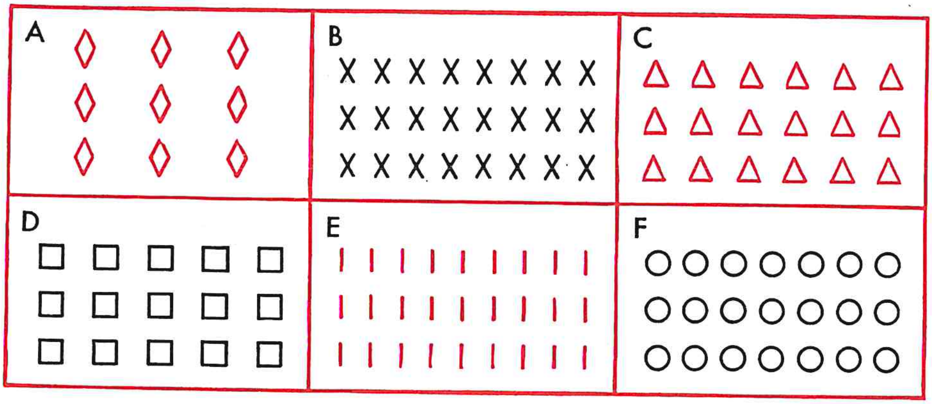
4. Look at picture A. What multiplication fact does it show? What multiplication fact does B show? What fact does C show? Write these three new facts.

5. Use play pennies to show what 5 × 3 equals. How much is 5 × 3? Use play pennies to show what 7 × 3 equals; to show what 9 × 3 equals.

Try to tell what number goes in each space:

6. 5 × 3 = . . .   2 × 3 = . . .   8 × 3 = . . .
7. 7 × 3 = . . .   9 × 3 = . . .   4 × 3 = . . .
8. 1 × 3 = . . .   3 × 3 = . . .   6 × 3 = . . .

The 3's in Multiplication



1. Which picture above shows that $5 \times 3 = 15$?

2. Which picture above shows that $8 \times 3 = 24$?

3. Tell what multiplication facts pictures A, C, E, and F show.

Tell the answers:

4. $7 \times 3 = \ldots$ $6 \times 3 = \ldots$ Four 3's are . . .

5. $3 \times 3 = \ldots$ $2 \times 3 = \ldots$ Nine 3's are . . .

6. $8 \times 3 = \ldots$ $1 \times 3 = \ldots$ Five 3's are . . .

7. Learn these multiplication facts:

$$\begin{array}{r}3\\1\\\hline 3\end{array}\quad\begin{array}{r}3\\2\\\hline 6\end{array}\quad\begin{array}{r}3\\3\\\hline 9\end{array}\quad\begin{array}{r}3\\4\\\hline 12\end{array}\quad\begin{array}{r}3\\5\\\hline 15\end{array}\quad\begin{array}{r}3\\6\\\hline 18\end{array}\quad\begin{array}{r}3\\7\\\hline 21\end{array}\quad\begin{array}{r}3\\8\\\hline 24\end{array}\quad\begin{array}{r}3\\9\\\hline 27\end{array}$$

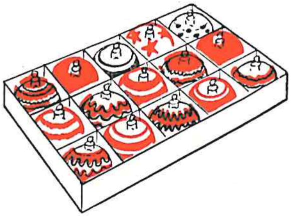
8. A stamp costs 3¢. How much must Jim pay for 8 stamps? for 5 stamps? for 2 stamps? for 9 stamps?

9. At 3¢ each, find the cost of 4 pencils; 6 pencils; 2 pencils; 1 pencil; 3 pencils; 7 pencils.

10. There are 3 buttons on a card. How many buttons are there on 6 cards? on 5 cards? on 4 cards?

The 3's in Multiplication

1. Susan bought some balls for the Christmas tree. They came in a box like the one shown in the picture. How many balls did she buy? Count them.



2. Jack says there are 5 rows and 3 balls in each row. How many are 5 × 3? Susan says there are 3 rows and 5 balls in each row. How many are 3 × 5? Is 5 × 3 the same as 3 × 5? The numbers in 3 × 5 are the same as those in 5 × 3 but they are turned around. 3 × 5 and 5 × 3 are a pair of multiplication facts.

$$\begin{array}{r}3\\ \times 5\\ \hline 15\end{array} \qquad \begin{array}{r}5\\ \times 3\\ \hline 15\end{array}$$

If two numbers are turned around, their product is still the same.

3. Learn these multiplication facts with 3's:

$$\begin{array}{r}3\\ 1\\ \hline 3\end{array} \quad \begin{array}{r}1\\ 3\\ \hline 3\end{array} \qquad \begin{array}{r}3\\ 2\\ \hline 6\end{array} \quad \begin{array}{r}2\\ 3\\ \hline 6\end{array} \qquad \begin{array}{r}3\\ 4\\ \hline 12\end{array} \quad \begin{array}{r}4\\ 3\\ \hline 12\end{array} \qquad \begin{array}{r}3\\ 5\\ \hline 15\end{array} \quad \begin{array}{r}5\\ 3\\ \hline 15\end{array} \qquad \begin{array}{r}3\\ 3\\ \hline 9\end{array}$$

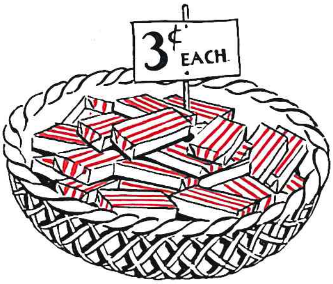
$$\begin{array}{r}3\\ 6\\ \hline 18\end{array} \quad \begin{array}{r}6\\ 3\\ \hline 18\end{array} \qquad \begin{array}{r}3\\ 7\\ \hline 21\end{array} \quad \begin{array}{r}7\\ 3\\ \hline 21\end{array} \qquad \begin{array}{r}3\\ 8\\ \hline 24\end{array} \quad \begin{array}{r}8\\ 3\\ \hline 24\end{array} \qquad \begin{array}{r}3\\ 9\\ \hline 27\end{array} \quad \begin{array}{r}9\\ 3\\ \hline 27\end{array}$$

4. 7 × 3 = . . ., so 3 × 7 = . . . Six 3's are . . .

5. 9 × 3 = . . ., so 3 × 9 = . . . Four 3's are . . .

6. 8 × 3 = . . ., so 3 × 8 = . . . Five 3's are . . .

Practicing the 3's



1. A piece of candy costs 3¢. So the cost of 2 pieces of candy is . . .¢. 5 pieces of candy cost . . .¢. 9 pieces cost . . .¢.

2. At 3¢ each, what will it cost to buy 7 stamps? 4 stamps? 6 stamps? 3 stamps? 8 stamps?

3. How many days are there in a week? How many days are there in 3 weeks?

4. At Peggy's party 4 children sat at each small table. There were 3 tables. How many children were there at the tables?

5. Jack forgets the answer to 3 × 7. He turns the numbers around and gets 7 × 3. He remembers that 7 × 3 = . . ., so 3 × 7 = . . .

6. What do you do if you forget 3 × 8? if you forget 3 × 6? if you forget 3 × 9?

7. How many cents are there in 3 nickels?

Say the answer to each multiplication fact:

8. 3 × 4   6 × 3   3 × 3   3 × 8   3 × 1

9. 3 × 2   8 × 3   7 × 3   2 × 3   3 × 5

10. 9 × 3   3 × 7   5 × 3   3 × 6   3 × 9

11. $\begin{array}{r}3\\ \underline{6}\end{array}$ $\begin{array}{r}3\\ \underline{4}\end{array}$ $\begin{array}{r}1\\ \underline{3}\end{array}$ $\begin{array}{r}3\\ \underline{9}\end{array}$ $\begin{array}{r}3\\ \underline{3}\end{array}$ $\begin{array}{r}1\\ \underline{2}\end{array}$ $\begin{array}{r}7\\ \underline{3}\end{array}$ $\begin{array}{r}3\\ \underline{1}\end{array}$ $\begin{array}{r}2\\ \underline{3}\end{array}$

12. $\begin{array}{r}4\\ \underline{3}\end{array}$ $\begin{array}{r}9\\ \underline{3}\end{array}$ $\begin{array}{r}3\\ \underline{5}\end{array}$ $\begin{array}{r}6\\ \underline{3}\end{array}$ $\begin{array}{r}8\\ \underline{3}\end{array}$ $\begin{array}{r}3\\ \underline{7}\end{array}$ $\begin{array}{r}5\\ \underline{3}\end{array}$ $\begin{array}{r}3\\ \underline{2}\end{array}$ $\begin{array}{r}3\\ \underline{8}\end{array}$

Problems and Practice

1. Mother cooks 3 eggs for breakfast each morning. How many eggs does she cook in 7 mornings?

2. Susan made 3 sandwiches for each child at her party. For 8 children, how many sandwiches did she make?

3. Tom feeds his rabbit 3 carrots a day. How many carrots does he feed his rabbit in 3 days? in 4 days?

4. There are 6 rolls in a package. How many rolls are there in 3 packages?

5. Find the cost of 2 toy boats at $3 each.

Multiply these numbers:

6.	3	4	3	3	8	1	3	2	3
	7	3	2	5	3	3	6	3	3
7.	3	6	3	7	4	3	5	3	9
	4	3	9	3	3	8	3	1	3

8. Do ex. 6 and 7 again and add 1 to each answer. The first answer is 22. Try this again and add 2.

Multiply. Check your work by going over it:

9.	13	31	32	83	32	213	321
	3	6	3	3	4	3	3
10.	71	23	31	33	41	132	211
	3	3	5	2	3	3	3
11.	63	31	34	43	31	333	231
	3	4	2	3	7	3	3

Carrying in Multiplication

1. **Problem** Bill bought 3 tickets to the movies. Each ticket cost 24¢. How much did he pay for 3 tickets?

Explanation Multiply 24 by 3 to find the answer.

Think, "3 × 4¢ = 12¢. 12¢ = 1 dime and 2¢." Write 2 in cents place. Carry 1 dime to dimes column when you do the next step.

Think, "3 × 2 dimes = 6 dimes. 6 dimes + 1 dime (carried) = 7 dimes." Write 7 in dimes place. The answer is 72. Bill paid 72¢ for the tickets.

$$\begin{array}{r} 24 \\ 3 \\ \hline 72 \end{array}$$

2. Ann bought 2 bus tickets to Northfield. Each ticket cost 98¢. How much did she pay for 2 tickets?

▶ Remember to write your answer in dollars and cents.

Multiply. Check your work by going over it:

3.	25	16	48	15	75	46	39
	3	3	2	3	2	2	2
4.	67	35	46	29	85	94	35
	2	3	3	2	2	3	2
5.	75	96	37	54	76	87	85
	3	2	2	3	3	2	3
6.	58	14	96	66	89	65	95
	2	3	3	2	2	3	2
7.	36	28	59	26	49	17	34
	3	2	2	3	2	2	3
8.	18	45	64	19	74	55	26
	2	3	3	2	3	3	2

Oral Review

1. How many thirds are there in a whole pie?

2. How many fourths are there in a whole apple?

3. How many cents are 15 cents less 8 cents?

4. Find the cost of 3 rulers at 8¢ each.

Say the answers. Watch the signs:

5. $7 - 3$ $\quad 4 + 8$ $\quad 2 \times 4$ $\quad 9 - 8$ $\quad 8 + 6$

6. 2×6 $\quad 8 - 2$ $\quad 3 + 7$ $\quad 2 \times 7$ $\quad 8 \times 1$

7. 2×5 $\quad 3 \times 1$ $\quad 8 - 3$ $\quad 5 + 8$ $\quad 9 + 8$

8. $5 + 7$ $\quad 7 \times 2$ $\quad 6 - 2$ $\quad 3 \times 5$ $\quad 10 - 4$

9. $9 - 5$ $\quad 7 + 6$ $\quad 2 \times 9$ $\quad 9 + 4$ $\quad 12 - 9$

Tell the numbers to put in the spaces:

10. 4 dimes = . . .¢ 1 nickel and 8 cents = . . .¢

11. 7 nickels = . . .¢ 1 dime and 1 nickel = . . .¢

12. 3 quarters = . . .¢ 1 dime and 1 quarter = . . .¢

Multiply. Then add 1 to each answer:

13. 3×7 $\quad 9 \times 3$ $\quad 2 \times 9$ $\quad 8 \times 3$ $\quad 3 \times 4$

14. 4×3 $\quad 6 \times 2$ $\quad 4 \times 2$ $\quad 6 \times 3$ $\quad 5 \times 2$

15. 5×3 $\quad 3 \times 2$ $\quad 3 \times 6$ $\quad 5 \times 1$ $\quad 3 \times 9$

16. 9×1 $\quad 3 \times 8$ $\quad 2 \times 7$ $\quad 3 \times 3$ $\quad 9 \times 2$

17. 7×3 $\quad 6 \times 1$ $\quad 7 \times 2$ $\quad 8 \times 2$ $\quad 3 \times 5$

18. Multiply the numbers in ex. 13 to 17 again. Then add 2 to each answer.

The Book Store

1. Mr. Bell sells books for children. Betty spent $2.50 for a story book and $1.95 for a bird book. How much did the two books cost?
2. Betty gave Mr. Bell $5.00 to pay for the books. How much change did he give Betty? Use your answer to ex. 1. Count the change as Mr. Bell did.
3. Jim had $2.50 to spend for a book. An airplane book he wanted cost $2.95. How much more did Jim need?
4. Mary bought 3 books that cost $1.22 each. How much did these books cost all together?
5. The book Bill wanted was not in the store. Mr. Bell said he could get it in 3 weeks. How many days would that be?
6. Tom spent $2.00 for 2 books. One of them cost $1.35. How much did the other book cost?
7. Make up a problem about buying books. Then ask the boys and girls to work it.

Addition Practice

Begin at the bottom and add up. Check your work:

1.	26	19	36	45	78	55	47	67
	21	55	48	36	25	33	45	74
	43	33	22	56	15	28	77	59
2.	21	24	21	8	48	79	40	18
	33	66	62	63	90	70	17	68
	9	7	25	34	28	29	8	31
	42	51	8	26	26	44	48	78

3. Find the sum of 28, 42, 36; of 48, 16, 59.

4. How many cents are 75¢, 45¢, 9¢, and 35¢?

Write the three numbers in a column. Add up:

5. 5 + 5 + 8　　60 + 39 + 39　　79 + 62 + 24

6. 4 + 9 + 7　　57 + 23 + 62　　58 + 27 + 37

7. 7 + 6 + 8　　73 + 33 + 46　　93 + 59 + 48

8. Add 6 to each of these numbers:

48　56　23　37　84　19　65　71

9. Add 9 to each number in ex. 8. Add 7 to each.

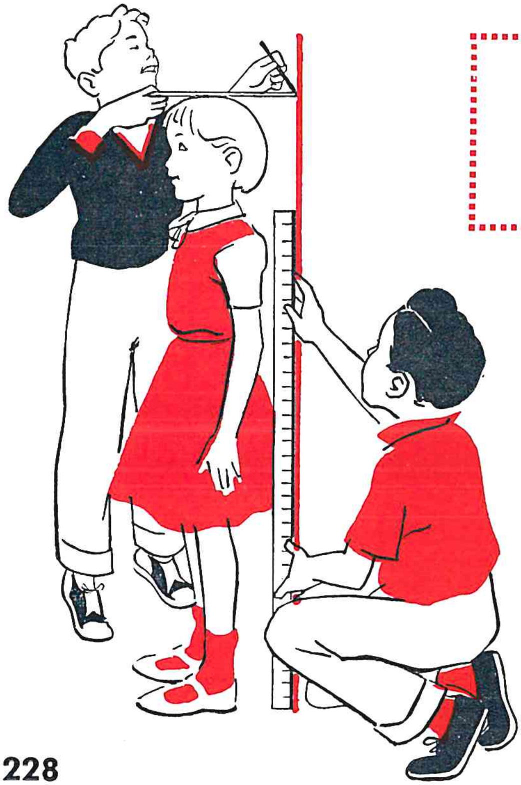
Add and check your work:

10.	186	394	218	186	363	128
	369	143	315	705	259	286
11.	407	490	195	541	258	101
	93	374	105	275	169	619
12.	493	356	337	357	59	227
	47	553	67	89	528	66
	146	38	326	415	125	413

How Tall Are They?

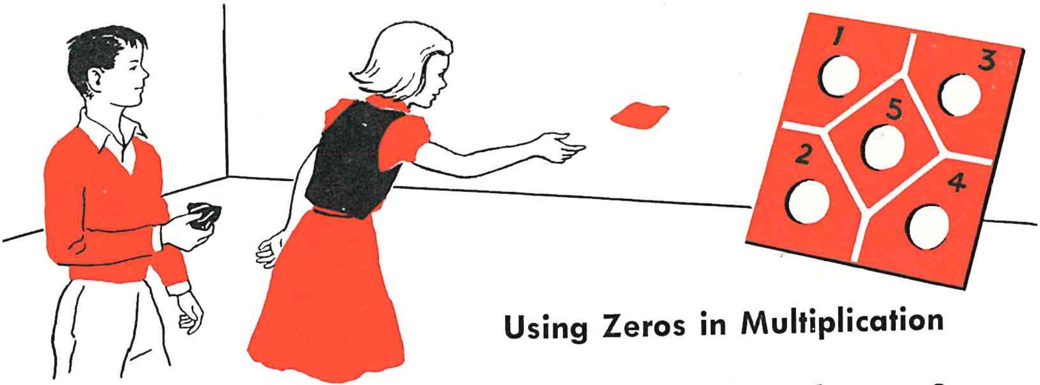
1. The boys are measuring to find how tall Susan is. They have a stick 36 inches long. It is called a yardstick. There are 36 inches in a yard. Susan is 8 inches taller than the yardstick. How tall is she?
2. Get a yardstick and a foot ruler. Now measure the yardstick with the ruler. Can you tell how many feet there are in 1 yard?
3. How many feet are there in 1 yard? How many inches are there in 1 foot? Multiply to find how many inches there are in 3 feet. Is your answer the same as the number of inches in a yard?
4. With a yardstick measure a boy and a girl. Tell how many feet and inches tall each one is.
5. Learn this table of measures:

12 inches = 1 foot
3 feet = 1 yard
36 inches = 1 yard



Tell which is longer:

6. 1 yard or 1 foot
7. 8 feet or 5 yards
8. 3 yards or 11 feet
9. 15 inches or 1 foot
10. 36 inches or 2 yards
11. 10 inches or 1 foot



Using Zeros in Multiplication

1. The children are playing beanbag. Jack throws 3 bags. Each one goes into hole 2. How many are three 2's? How many are 3 × 2?

2. Ann throws 3 bags. Each one falls on the floor. Ann gets 0 each time a bag falls on the floor. Ann gets 0 + 0 + 0 for her turn. What is the sum? This shows that three 0's make 0. So 3 × 0 = 0.

3. If you throw 2 bags and they both fall on the floor, what do you get? How much is 2 × 0?

4. How many are 9 × 0? 4 × 0? 5 × 0? 0 × 0?

5. You know that 6 × 0 = 0. If you turn the numbers around, the answer is still 0. This shows that 0 × 6 = 0.

$$\begin{array}{r}0\\6\\\hline 0\end{array}\qquad\begin{array}{r}6\\0\\\hline 0\end{array}$$

6. How many are 0 × 8? 0 × 1? 0 × 7? 0 × 3?

Any number × 0 = 0
0 × any number = 0

7. In ex. 2 to 6 above, 12 zero facts in multiplication are given. There are 7 other multiplication facts that have zero. Write them.

Carrying 2 in Multiplication

1. **Problem** A bus ticket to Blue Lake costs \$2.09. Joe bought 3 tickets for Bill, Dick, and himself. How much did the tickets cost?

Explanation Multiply \$2.09 by 3 to find the answer.

Think, "3 × 9¢ = 27¢." Write the 7 in cents place and carry the 2 dimes to dimes column. Think, "3 × 0 dimes = 0 dimes. 0 dimes + 2 dimes (carried) = 2 dimes." Write 2 in dimes place. Think, "3 × \$2 = \$6." Write 6 in dollars place. The answer is \$6.27. The tickets cost \$6.27. Check the work.

$$\begin{array}{r}\$2.09\\ \underline{3}\\ \$6.27\end{array}$$

2. A bus ticket to Greenfield costs \$1.28. Find the cost of 3 tickets to Greenfield.

Multiply. Check your work by going over it:

3.	67 3	58 3	23 9	\$.48 3	107 3	113 5	\$3.07 3
4.	79 3	13 8	68 3	\$.29 3	448 2	109 3	\$1.13 6
5.	59 3	32 6	86 3	\$.33 7	103 8	118 3	\$2.08 3
6.	13 9	78 2	47 3	\$.88 3	103 7	209 2	\$1.12 8
7.	28 3	69 2	13 7	\$.23 8	318 3	339 2	\$1.13 7
8.	23 7	39 3	33 9	\$.97 2	305 3	102 9	\$1.08 3

Find these products. Check your work by going over it:

1.	109	219	124	147	213	308
	2	3	3	2	5	3

2.	218	208	139	203	417	436
	3	2	2	7	3	2

3. Ann is stringing beads. She puts 48 beads on each string. How many beads does Ann use for 3 strings?

4. Bill's father took Mary and Bill to the circus. He paid $1.25 for each of the 3 tickets. How much did he pay in all?

5. Some of the boys made tickets for our school play. They made 225 tickets for each day we gave the play. How many tickets did they make for 3 days?

6. The milkman brings 112 small bottles of milk to school each school day. How many bottles does he bring in 5 days?

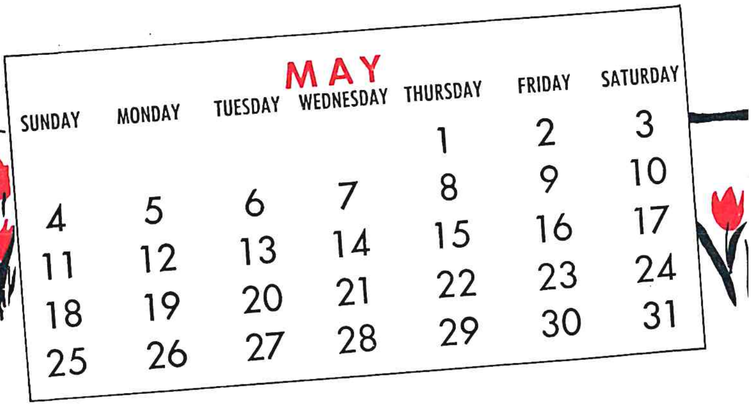
7. Mother can bake 36 cookies in one pan. How many cookies can she bake in 3 pans?

8. Peggy's father took the family to Grandmother's house. They rode 135 miles to go there. They came home the same way. How many miles did they ride?

Multiply and check:

9.	34	61	30	22	300	109	240
	2	3	9	8	7	3	2

10.	20	78	56	29	203	245	312
	7	3	2	3	3	2	3



MAY

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

The Calendar

1. On page 109 you learned the months of the year. How many months are there? Which is the first month? Which is the last month?
2. At the top of this page you see a calendar for May. How many days are there in May? On what day of the week does May begin on this calendar? On what day of the week does it end?
3. The first Saturday in May comes on the third day of May. The **date** of that Saturday is May 3. You say the date is **May three** or **May third.** You should tell the year also, like this: May 3, 1969. Often the year is left out when you give a date in this year.
4. Read the dates of all the Sundays in May.
5. Look at the calendar above. On what day of the week does each of these dates come?

   May 6 May 11 May 21 May 30
6. Look at the calendar at school. What month is it now? On what day of the week does this month begin?
7. Find your birthday month on the school calendar. What is the date of your birthday? On what day of the week is your birthday this year?

Use a calendar for this year to answer ex. 1 to 4:

1. How many days are there in January? in February? in June? in July? in November?
2. Find all the months that have 31 days. Name them. Does any month have more than 31 days?
3. Find all the months that have 30 days. Name them. Does any month have less than 30 days? If so, tell the name of the month.
4. What is the date of Christmas? On what day of the week does Christmas come this year?
5. Name the days of the week. How many days are there in 1 week? in 2 weeks? in 3 weeks?
6. Suppose the first Saturday in June is June 7. Without looking at a calendar, tell the date of the second Saturday in June. How did you find it? Tell the date of the third and fourth Saturdays in June.
7. Suppose July 4 is the date of the first Friday in July. Tell the dates of all the other Fridays in July.
8. One year July 30 came on Wednesday. How many Wednesdays were there in July that year?
9. You may take a library book home for 2 weeks. Suppose you take out a book on October 5. On what date must you take the book back?
10. Suppose you take out a library book on each of the dates below. You may keep the book for 2 weeks. On what date must you take the book back?

    January 15 July 7 August 13 May 8

Learning More about Subtraction

You subtract when you take a smaller group of things from a larger one. The answer is smaller than the larger group.
If you subtract 0 from a group of things, the answer is the same as the group.

1. Jim is 48 inches tall. Bill is 51 inches tall. How much taller is Bill than Jim?

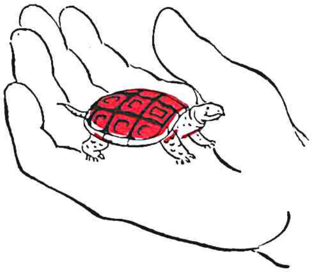
2. Mary made 30 pieces of candy. The children ate 12 pieces of it. How many pieces were left then?

3. A ball costs 35¢. A top costs 28¢. How much less does the top cost than the ball?

4. Betty has 15 examples to work. She has finished 9 of them. How many more must she do?

5. Ann had 12 tickets to sell. She has only 3 tickets left now. How many tickets has Ann sold?

6. Bill has 12 rabbits. Five of them are white and the rest are black. How many black rabbits has he?



7. Peter has 19 rabbits. Bill has 12 rabbits. How many more rabbits has Peter than Bill?

8. Today Dick earned a half dollar. He bought a turtle for 29¢. How much change did he get? Has he enough money left to buy a little fish for 19¢?

Learning When to Subtract

▶ You subtract in problems that ask you
- (a) to find how many are left.
- (b) to find how much change you should get.
- (c) to find how many are gone.
- (d) to find how many more are needed.
- (e) to find how much more or less one number is than another number.
- (f) to find how much longer or shorter one thing is than another thing.
- (g) to find the other part of a number.

More Problems

1. Mother made 60 cookies. 24 of them were orange cookies. The rest were nut cookies. How many nut cookies did Mother make?
2. A ball costs 30¢. A top costs 15¢. How much does Tom need to buy both the ball and the top?
3. Ann spends $1.20 each week for school lunches. How much does she spend in 3 weeks?
4. Peter bought a book for 39¢. He gave the man in the store a dollar bill to pay for it. How much change did Peter get? Count the change the way the man would do it.
5. Jane drinks 3 glasses of milk a day. How many glasses of milk does Jane drink in a week?
6. Today Joe unpacked 2 boxes of oranges in his father's store. There were 144 oranges in each box. How many oranges did Joe unpack?

Mixed Practice

Begin at the bottom and add up. Check by adding down:

1.	6	8	7	6	5	4	7	3	7
	8	9	4	5	7	0	8	9	6
	3	0	2	6	4	8	6	5	1
	2	5	7	4	2	8	7	2	8
2.	5	5	7	4	9	4	7	4	7
	6	7	5	7	3	8	6	8	5
	9	2	5	9	8	6	3	4	2
	3	6	9	8	1	6	5	3	5

Write these numbers in columns and add or subtract them:

3.	325 + 136	740 − 711	99 + 25 + 11
4.	529 − 359	298 + 289	36 + 14 + 57
5.	400 − 256	203 − 195	64 + 12 + 89
6.	446 − 369	539 − 207	69 + 14 + 28
7.	183 + 463	332 + 568	91 + 33 + 84

8. Add 8 to each number below; add 7; add 9:

49 62 33 86 15 74 21 58

9. Subtract 10 from each number in ex. 8. Subtract 5 from each one.

Multiply. Check your work by going over it:

10.	48	56	83	26	219	123
	2	2	3	3	2	4
11.	14	79	73	12	103	105
	3	3	2	6	8	3

Which One Is Right?

Three answers are given below each question. Tell which answer is the right one:

1. Which one is the fourth month?
December April February

2. Which one is shorter than a yard?
4 feet 24 inches 40 inches

3. Which one is equal to a foot?
36 inches 18 inches 12 inches

4. Which one is equal to a dollar?
4 quarters 75 cents 9 dimes

5. Which one is more than a quart?
2 glasses 4 pints 1 pint

6. Which one is not equal to a yard?
3 feet 36 inches 18 inches

7. Which one is equal to a dozen eggs?
6 eggs 12 eggs 18 eggs

8. Which one is longer than a foot?
19 inches 10 inches 4 inches

9. Which one is equal to 5 dimes?
dollar half dollar quarter

10. Which one means twelve?
VII XII X

11. Which one is the largest piece of pie?
$\frac{1}{2}$ pie $\frac{1}{3}$ pie $\frac{1}{4}$ pie

12. Which one makes more glasses of milk?
1 pint 2 pints 2 quarts

Chapter Review

Multiply. Then add 1 to each answer:

1. 3 × 5 9 × 2 3 × 7 8 × 1 3 × 9

2. 2 × 8 6 × 3 2 × 6 3 × 3 9 × 0

3. 4 × 3 7 × 0 4 × 1 9 × 3 7 × 2

4. Begin with 30 and count by 2's to 50.

5. Begin with 21 and count by 3's to 60.

Tell the number that goes in each space:

6. 6 × 3 = . . ., so 3 × 6 = . . . Four 2's are . . .

7. 9 × 2 = . . ., so 2 × 9 = . . . Seven 3's are . . .

8. 7 × 0 = . . ., so 0 × 7 = . . . Three 8's are . . .

9. How many inches are there in 3 feet? in 4 feet?

10. How many inches are there in 2 yards? in 3 yards?

11. Write today's date. Give the month, day, and year.

12. Write the date one week later than June 11.

Multiply. Check your work by going over it:

13.	18 2	36 3	29 3	406 2	225 3	108 3
14.	54 3	20 7	89 2	113 5	120 4	219 3
15.	98 3	33 8	77 3	240 2	103 7	110 6
16.	75 3	76 2	32 6	417 2	314 3	213 4

A Problem Test

1. Jim bought 2 packages of stamps for his book. There were 135 stamps in each package. How many stamps did Jim buy?
2. In ex. 1 each package of stamps cost $.75. How much did Jim pay for 2 packages of stamps?
3. Bill also bought 2 packages of stamps. One of them cost $.65 and the other cost $1.25. How much did Bill pay for the stamps he bought?
4. Jim bought 270 stamps. Bill bought 300 stamps. How many more stamps did Bill buy than Jim?
5. Sally paid $1.50 for a basket for her bicycle. She also bought a bicycle light for $1.49. How much did Sally pay for both things?
6. In ex. 5 Sally gave the man $5.00 to pay for the basket and the light. How much change did she get?
7. Saturday Jack had 25 baskets of apples to sell. By supper time he had sold all but 4 baskets. How many baskets of apples had Jack sold?
8. At 2¢ each, find the cost of 8 stamps.
9. Ann sold 3 cakes for her mother. She got $.85 for each one. How much money did she get in all?
10. Ann's mother baked 3 large pans of cookies. There were 27 cookies in each pan. How many cookies were there all together?

Go back and look over your work. Try to get each answer right. In how many problems did you need to multiply to get the answer? Each problem counts 10.

How Much Have You Learned?

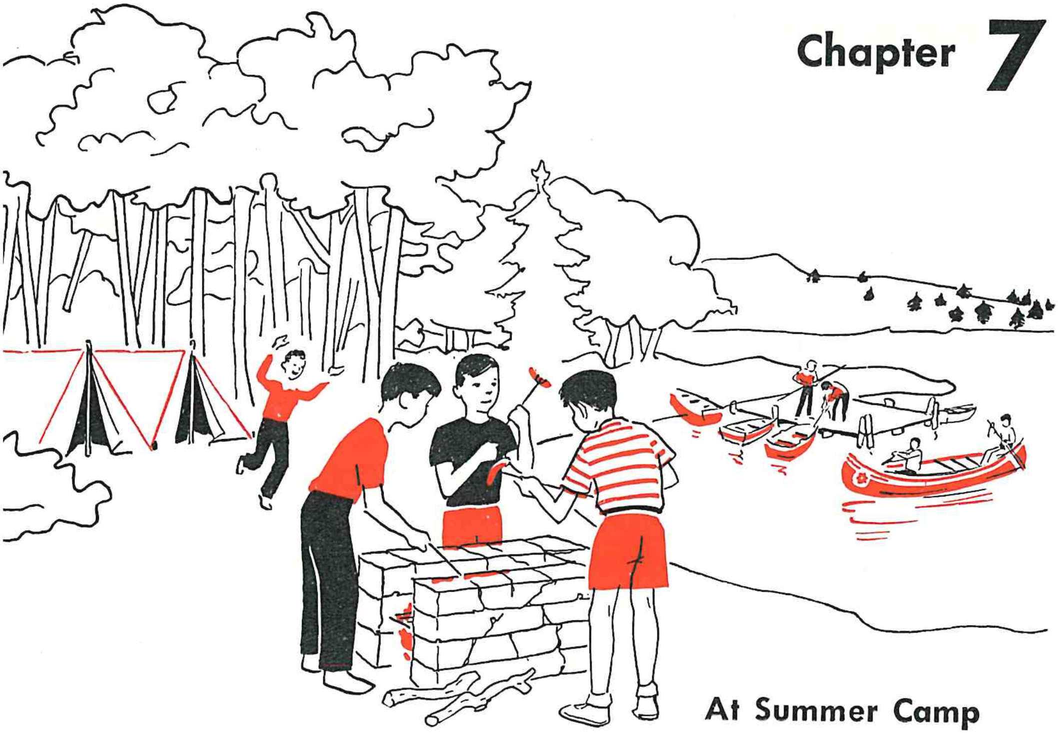
If you miss more than one example in a row, turn to the Practice Page for that row.

Copy and fill in the spaces:	Practice Pages
1. $6 \times 2 = \ldots$, so $2 \times 6 = \ldots$	205
2. $4 \times 1 = \ldots$, so $1 \times 4 = \ldots$	212
3. $8 \times 3 = \ldots$, so $3 \times 8 = \ldots$	221
4. $6 \times 0 = \ldots$, so $0 \times 6 = \ldots$	229

Multiply and check your work:

5.	32 2	41 2	83 2	314 2	231 2	211
6.	11 6	21 5	13 2	211 4	121 3	213
7.	\$.24 2	\$.11 7	\$.22 3	\$.64 2	\$.92 2	215
8.	23 3	41 3	31 5	123 3	221 3	223
9.	25 2	24 3	39 2	16 3	25 3	224
10.	27 3	75 3	23 8	207 3	128 3	230
11.	\$.68 3	\$.37 3	\$.29 3	\$.13 7	\$.19 3	230

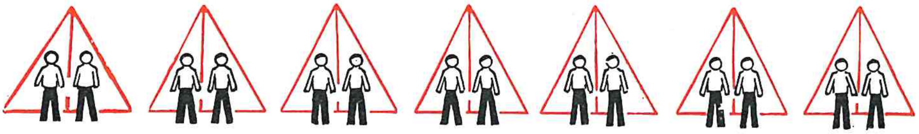
Chapter 7



At Summer Camp

1. Last summer there were 14 young boys at Star Camp. Two boys lived in each tent. How many tents were there for the young boys?

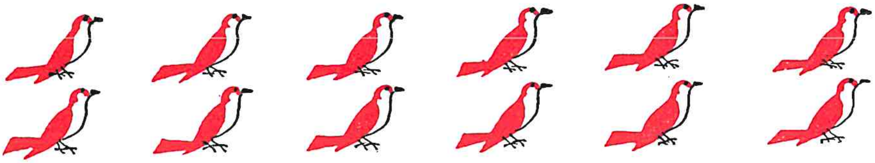
   ▶ Look at the picture below. You see 14 boys standing by their tents. How many tents are there? How many 2's make 14?



2. There were 18 older boys at the camp, too. How many tents did they need if 2 boys were in each tent?

   ▶ On paper draw a picture like the one under ex. 1. How many tents do 18 boys need? How many 2's make 18?

Making Equal Groups



1. Here are 12 birds in groups. There are 2 birds in each group. How many groups do you see? How many 2's are there in 12?

★ ★|★ ★|★ ★|★ ★|★ ★|★ ★|★ ★

2. Here are 14 stars. The stars are shown in groups with 2 stars in each group. How many groups are there? How many groups of 2 stars each are there in 14 stars? How many 2's are there in 14?

3. On paper draw 16 dots in a row. Draw lines to make groups of 2 dots each. How many groups are there? How many 2's are there in 16?

●● ●● ●●

4. Three 2's are how many?

● ●|● ●|● ●

How many 2's in 6?

●● ●● ●● ●●

5. Four 2's are how many?

● ●|● ●|● ●|● ●

How many 2's in 8?

● ● ● ● ● ● ● ●
● ● ● ● ● ● ● ●

6. Eight 2's are how many?

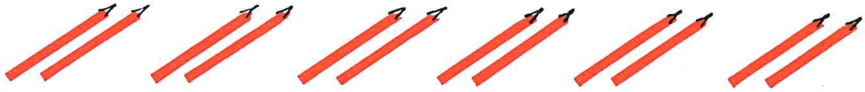
●|●|●|●|●|●|●|●
●|●|●|●|●|●|●|●

How many 2's in 16?

Tell the answers:

7. Five 2's are 10, so there are . . . 2's in 10.
8. Nine 2's are . . ., so there are . . . 2's in 18.
9. Two 2's are . . ., so there are . . . 2's in 4.

How Many 2's?



1. Here are 12 pencils in groups of 2 pencils each. How many groups of 2 pencils each are there? How many 2's are there in 12?
2. Ann says she can find the answer without a picture. She says that there are six 2's in 12 because $6 \times 2 = 12$. Do you think Ann is right?
3. How many 2's are there in 16? Joe says that there are eight 2's in 16 because $8 \times 2 = 16$. Is Joe right?
4. Another way to say that there are eight 2's in 16 is: "16 divided by 2 is 8." A short way to write it is like this: $16 \div 2 = 8$. The sign ÷ means **divided by.**
5. When you find how many 2's there are in 16, you are **dividing.** $16 \div 2 = 8$ is a **division fact.**
6. A short way to write $16 \div 2 = 8$ is shown at the right. This short way is also read "16 divided by 2 is 8."

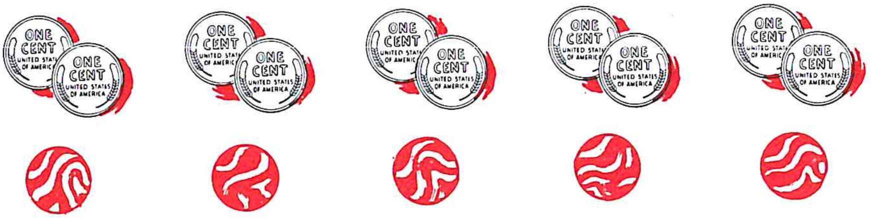
$$\begin{array}{r} 8 \\ 2\overline{)16} \end{array}$$

7. $2\overline{)10}$ means $10 \div 2$. It also means "How many 2's in 10?" What does $2\overline{)8}$ mean? $2\overline{)14}$?
8. How many are 3×2? How many 2's make 6? How many are $6 \div 2$? What is the answer to $2\overline{)6}$?
9. How many are 9×2? How many 2's make 18? What does $18 \div 2$ equal? What does $2\overline{)18}$ equal?

Say the numbers that go in the spaces:

10. $8 \times 2 = 16$, so there are . . . 2's in 16.
11. $4 \times 2 =$ . . ., so there are . . . 2's in 8.

Learning to Divide



1. Marbles cost 2¢ each. How many marbles can you buy for 10¢?

   ▶ Look at the 10 pennies above. They are **divided** into groups of 2 pennies each. Each group of 2 pennies buys 1 marble. How many marbles do you see? How many are 10 ÷ 2?

If you need help, draw pictures as in ex. 1:

2. A stick of candy costs 2¢. How many sticks can Peter buy for 8¢? How many are $2\overline{)8}$?
3. How many 2-cent stamps can Susan buy for 18¢? How many 2's are there in 18?
4. Mr. Wood bought 16 birds to sell in his pet store. He put 2 birds in each cage. How many cages did he use? How many are $2\overline{)16}$?
5. A pencil costs 2¢. How many pencils can Jack buy for 6¢? How many 2's are there in 6?
6. Ann picked 12 blue flowers in her garden. She put them in bunches with 2 flowers in each bunch. How many bunches of flowers did Ann make?

Tell the numbers that go in the spaces:

7. $9 \times 2 = \ldots$, so $18 \div 2 = \ldots$ $\quad\ldots$ 2's = 18
8. $7 \times 2 = \ldots$, so $14 \div 2 = \ldots$ $\quad\ldots$ 2's = 14

The 2's Facts in Division

1. On pages 242–244 you divided numbers by 2. You found how many 2's there are in those numbers. Here are all the division facts for 2. Learn them. The first fact is read "2 divided by 2 is 1."

$\begin{array}{r}1\\2\overline{)2}\end{array}$ $\begin{array}{r}2\\2\overline{)4}\end{array}$ $\begin{array}{r}3\\2\overline{)6}\end{array}$ $\begin{array}{r}4\\2\overline{)8}\end{array}$ $\begin{array}{r}5\\2\overline{)10}\end{array}$

$\begin{array}{r}6\\2\overline{)12}\end{array}$ $\begin{array}{r}7\\2\overline{)14}\end{array}$ $\begin{array}{r}8\\2\overline{)16}\end{array}$ $\begin{array}{r}9\\2\overline{)18}\end{array}$

2. Write the nine division facts in ex. 1 in another way, like this: $2 \div 2 = 1$, $4 \div 2 = 2$, and so on.

3. Read each of the division facts in ex. 1. Which division fact says that there are seven 2's in 14? Which fact tells how many 2's there are in 18? How many are there? How many 2's are there in 10?

4. Which division fact in ex. 1 comes from $6 \times 2 = 12$? Which division fact comes from $8 \times 2 = 16$?

5. $6 \times 2 = \ldots$, so there are . . . 2's in 12.

6. $5 \times 2 = \ldots$, so there are . . . 2's in 10.

7. $7 \times 2 = \ldots$, so there are . . . 2's in 14.

8. If you forget the answer to a division fact like $14 \div 2$, ask yourself this question: How many 2's make 14? $7 \times 2 = 14$ tells you that seven 2's are 14. So there are seven 2's in 14. Then you know that $14 \div 2 = 7$. The multiplication facts will help you to learn the division facts.

9. Read these and give the answers:

$2\overline{)10}$ $2\overline{)18}$ $2\overline{)2}$ $2\overline{)14}$ $2\overline{)8}$ $2\overline{)12}$ $2\overline{)16}$

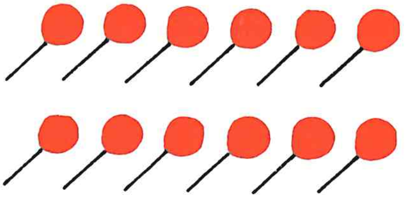
Painting Book Covers

1. Sally and Bill are painting book covers. They make 2 covers for each book. Sally has painted trees on 8 covers. For how many books has Sally painted covers? How many 2's are there in 8?
2. Bill has painted animals on 10 covers. For how many books has Bill enough covers? How many 2's are there in 10? How many are $2\overline{)10}$?
3. Last week the children painted flowers on 18 covers. These 18 covers can be used for how many books? How many 2's are there in 18?
4. How many books can be made from 12 covers? from 16 covers? from 14 covers?
5. How many covers are needed for 3 books?

Finding One Half of a Number

1. On page 98 you learned how to find one half of a whole apple or a whole candy bar. You know that the two halves must be equal in size. You write one half apple like this: $\frac{1}{2}$ apple.

2. Now you will find one half of a group of things. Here are 12 lollipops. They are divided into 2 equal groups. How many lollipops are there in each group? Are the groups equal in size? When 12 lollipops are divided into 2 equal groups, each group is **one half** of 12 lollipops.



3. Suppose there were 7 lollipops in one group and 5 lollipops in the other group. Would the groups be equal in size? Would each group be half of 12?

4. You see that $\frac{1}{2}$ of 12 lollipops are 6 lollipops. Another way of writing "$\frac{1}{2}$ of 12" is $12 \div 2$. Here $12 \div 2$ means that 12 has been divided into 2 equal parts. To find $\frac{1}{2}$ of 12, you divide 12 by 2.

5. Put 6 play pennies one at a time into 2 equal groups. How many pennies are there in each group? $\frac{1}{2}$ of 6 pennies are how many pennies?

To find $\frac{1}{2}$ of a number, divide it by 2.

Find the answers to these:

6. $\frac{1}{2}$ of 8 birds $\frac{1}{2}$ of 18 birds $\frac{1}{2}$ of 10 birds

Do You Multiply or Divide?

In each problem, first tell whether you multiply or divide to get the answer. Then tell the answer:

1. Joe had 12 candy eggs. He gave half of them to Alice. How many candy eggs did Alice get?
2. Mary has $8 to spend for books. The books Mary wants cost $2 each. How many books can Mary get with her money?
3. There are 6 lollipops in a bunch. How many lollipops are there in 3 bunches?
4. Picture post cards sell at 2 for a nickel. How many cards can Jim buy with 5 nickels?
5. Ann has 3 boxes of crayons. There are 8 crayons in each box. How many crayons has Ann all together?
6. Dick and Bill earned $16. They divided the money equally. How much did each boy get?
7. Mother made 10 dozen cookies for the cake sale. She put 2 dozen cookies in each box. How many boxes of cookies did she have?
8. In the school play there were 7 pairs of children in a dance. How many children were in the dance?
9. Tom made 14 toy animals. He made 2 of each kind. How many kinds of animals did Tom make?
10. Find the cost of 7 apples at 3¢ each.
11. Mother bought 2 sweaters for Susan at $4 each. How much did she pay for both sweaters?
12. Sally earned $4 last week. She put half of it in her bank. How much did Sally put in her bank?

Review Practice

Say the answers:

1. 16 + 6 24 + 5 39 + 6 28 + 2 53 + 9

2. 50 + 7 65 + 9 41 + 8 72 + 6 94 + 6

3. 47 + 4 83 + 5 35 + 7 48 + 6 26 + 8

Add 6 to each of these numbers; add 7; add 8; add 9:

4. 25 52 84 66 31 55 18 75

5. 63 74 88 29 78 36 87 92

Write the four numbers in a column, add, and check:

6. 37 + 34 + 66 + 55 42 + 31 + 18 + 87

7. 54 + 98 + 23 + 75 59 + 70 + 63 + 17

8. 89 + 23 + 74 + 48 36 + 36 + 79 + 24

9. The children in four rooms sold tickets for the school play. At the end of the first day they had sold 34 tickets, 29 tickets, 25 tickets, and 33 tickets. How many tickets had they sold the first day?

10. The children in ex. 9 had 500 tickets to sell. After the first day how many did they still have to sell?

Subtract these numbers. Check your work:

11.	695	147	363	429	120	535
	235	95	129	269	87	276
12.	931	320	357	600	684	567
	255	13	342	375	545	180
13.	800	779	578	178	308	934
	656	694	379	86	144	364

Problems about Spring

The children made these problems about spring. Can you find the answers?

1. Jim said, "On the way to school I saw 8 crows, 4 bluebirds, and 5 robins. How many birds is that?"
2. Ann asked, "How many little fish have I in this can? I had 25 but I left 8 of them at home in another can."
3. Peter said, "In January it was dark early. After school I played outdoors until half past 4. Now it is so light I can play outdoors until 6 o'clock. How much longer can I play outdoors now?" Look at the clock before you give your answer.
4. Susan said, "I am watching the flowers in our garden. Yesterday there were only 11 flowers. Today I counted 28 flowers. How many more flowers are there today than yesterday?"
5. Mary said, "One year I planted a tree that was 23 inches high. Now it is 48 inches high. How many inches higher is the tree now than when I planted it?"
6. Jack said, "Tom and I went to Grandfather's farm. The postman brought 3 boxes of baby chickens. There were 25 chickens in each box. How many chickens did Grandfather get?"

Oral Practice

1. Betty had a dime when she went to the store. She looked at some toys but spent nothing. How much money did Betty have left?

2. At 3¢ each, find the cost of 5 stamps; of 9 stamps.

3. How many 2-cent stamps can you get for a dime?

4. Mary bought 3 bags of carrots. There were 8 carrots in each bag. How many carrots in all did she buy?

5. A quarter is equal to how many nickels?

6. How many feet are there in 6 yards? in 4 yards?

7. How many pints are there in 8 quarts? in 7?

8. Count by 2's to 30; by 3's to 30; by 5's to 30.

9. Add 5 to each of the numbers below:

25 67 38 73 16 44 89 51

10. Add 8 to each number in ex. 9. Add 6; 7; 9.

Tell the answers:

11. $\frac{1}{2}$ of 14 $7 + 9$ $13 + 4$ $8 \div 2$

12. $\frac{1}{2}$ of 10 6×3 $12 - 9$ 2×7

13. $\frac{1}{2}$ of 18 $8 + 4$ $16 \div 2$ 3×5

14. $\frac{1}{2}$ of 12 9×0 $15 - 6$ $6 \div 2$

Tell the numbers that go in the spaces:

15. $7 + 7 = 14$, so $7 + 8 = \ldots$

16. $9 + 4$ is the same as $10 + \ldots$, or . . .

17. The next two numbers after 999 are . . . and . . .

Multiplication Review

1. Ann puts 10 candies in each box of candy she sells. How many candies must she make for 3 boxes? for 4 boxes? for 6 boxes? for 9 boxes? for 7 boxes?

2. Ann sells the candy at $.32 a box. How much does she get for 3 boxes? for 4 boxes? for 6 boxes?

3. A bus ticket from Grand River to Blue Lake costs $1.03. Find the cost of 2 tickets; of 3 tickets; of 4 tickets.

Multiply. Check your work by going over it:

4.	86	95	12	33	227	112	309
	2	3	7	4	2	5	3
5.	44	45	77	49	110	319	200
	2	3	2	3	5	2	4
6.	34	12	15	97	317	306	236
	3	8	2	3	3	3	2
7.	31	84	98	38	106	214	112
	9	3	2	3	3	3	6
8.	18	22	20	17	227	426	126
	3	5	9	2	3	2	3
9.	12	16	57	40	338	209	307
	9	2	3	3	2	3	2

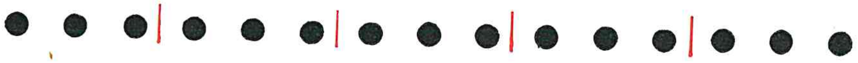
Multiply each number below by 2; by 3:

10. 55 72 87 69 30 115 216

11. $3.25 $1.32 $2.04 $3.16 $4.28

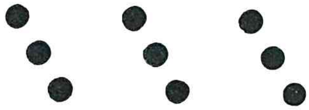
Making Equal Groups

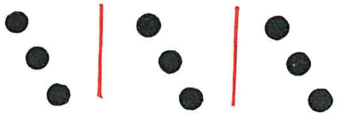
1. Here are 12 pennies with 3 pennies in each group. How many groups do you see? How many 3's are there in 12?



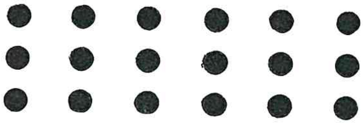
2. Here are 15 dots with 3 dots in each group. How many groups are there? How many groups of 3 dots each are there in 15 dots? How many 3's are there in 15?

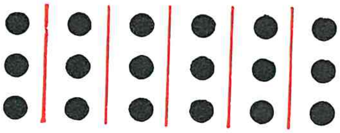
3. On your paper draw a row of 21 dots. Draw lines to divide the dots into groups of 3 dots each. How many groups are there? How many 3's are there in 21?





4. Three 3's are how many? How many 3's in 9?





5. Six 3's are how many? How many 3's in 18?

6. Mary uses the multiplication facts for 3 to help her divide. She thinks, "5 × 3 = 15, so there are five 3's in 15." How many are eight 3's? Then how many 3's are there in 24?

How Many 3's?

1. Jack says there are nine 3's in 27 because $9 \times 3 = 27$. Is Jack right? How many are $3\overline{)27}$?

2. Suppose you do not know how many 3's there are in 24. Think, "How many 3's make 24?" You know that $8 \times 3 = 24$, so there are eight 3's in 24. What does $3\overline{)24}$ equal? How many are $24 \div 3$?

Tell the numbers that go in the spaces:

3. $2 \times 3 = 6$, so there are . . . 3's in 6.
4. . . . $\times 3 = 12$, so there are . . . 3's in 12.
5. . . . $\times 3 = 24$, so there are . . . 3's in 24.
6. . . . $\times 3 = 18$, so there are . . . 3's in 18.
7. . . . $\times 3 = 27$, so there are . . . 3's in 27.
8. . . . $\times 3 = 21$, so there are . . . 3's in 21.
9. . . . $\times 3 = 15$, so there are . . . 3's in 15.

Draw dots on paper if you need help with ex. 10–13:

10. Crayons cost 3¢ each. Bill has 15¢. How many crayons can he buy for 15¢? How many 3's in 15?

11. Mother has 12 oranges. She uses 3 oranges for breakfast each day. How many days will 12 oranges last? How many 3's are there in 12?

12. Betty has a roll of ribbon 24 feet long. 3 feet make 1 yard. How many yards of ribbon has Betty? How many 3's are there in 24?

13. Father gave Jim 27¢ to buy 3-cent stamps. How many stamps should Jim get?

The 3's Facts in Division

Tell what numbers should be put in the spaces:

1. . . . 3's are 18 . . . 3's are 27 . . . 3's are 9

2. . . . 3's are 24 . . . 3's are 15 . . . 3's are 6

3. . . . 3's are 12 . . . 3's are 21 . . . 3's are 27

Tell the answers to these division facts:

4. 15 ÷ 3 = 21 ÷ 3 = 12 ÷ 3 = 6 ÷ 3 =

5. 27 ÷ 3 = 24 ÷ 3 = 18 ÷ 3 = 9 ÷ 3 =

6. 12 ÷ 3 = 27 ÷ 3 = 24 ÷ 3 = 3 ÷ 3 =

7. Remember these division facts:

$$\begin{array}{r}1\\3\overline{)3}\end{array}\qquad\begin{array}{r}2\\3\overline{)6}\end{array}\qquad\begin{array}{r}3\\3\overline{)9}\end{array}\qquad\begin{array}{r}4\\3\overline{)12}\end{array}\qquad\begin{array}{r}5\\3\overline{)15}\end{array}$$

$$\begin{array}{r}6\\3\overline{)18}\end{array}\qquad\begin{array}{r}7\\3\overline{)21}\end{array}\qquad\begin{array}{r}8\\3\overline{)24}\end{array}\qquad\begin{array}{r}9\\3\overline{)27}\end{array}$$

8. Read each division fact in ex. 7. Tell the multiplication fact from which it comes. For example, 6 ÷ 3 = 2 comes from 2 × 3 = 6.

9. Read these and give the answers:

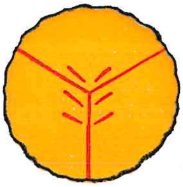
$$3\overline{)18}\qquad 3\overline{)24}\qquad 3\overline{)9}\qquad 3\overline{)15}\qquad 3\overline{)21}\qquad 3\overline{)6}\qquad 3\overline{)27}$$

10. In March Tom's music lessons cost \$15. Each lesson cost \$3. How many music lessons did Tom have?

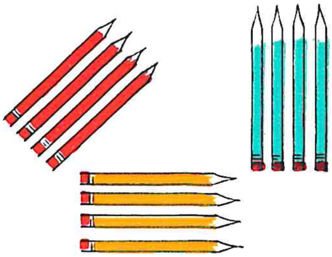
11. Sally's music lessons in March cost \$12. She pays \$3 for each one. How many lessons did Sally have?

12. Apples sell at 3¢ each. How many apples can Jim buy for 9¢?

Finding One Third of a Number



1. This pie is divided into 3 equal parts. Each part is **one third** of the whole pie. All 3 parts must be the same size. You write one third pie like this: $\frac{1}{3}$ pie.



2. Father bought a box of 12 pencils for Mary, Bill, and Jim. He divided them into 3 equal groups, as shown at the right. Each group is **one third** of 12 pencils. How many pencils are there in each group? How many are $\frac{1}{3}$ of 12 pencils?

3. Mary got $\frac{1}{3}$ of the pencils, Bill got $\frac{1}{3}$, and Jim got $\frac{1}{3}$. How many pencils did each child get?

4. How many are $\frac{1}{3}$ of 12? How many are $12 \div 3$? You see that $\frac{1}{3}$ of 12 is the same as $12 \div 3$.

To find $\frac{1}{3}$ of a number, divide it by 3.

5. Use 18 play pennies for this. Hand them one at a time to 3 children. Count to 18 as you hand them out. How many pennies did each child get? How many are $\frac{1}{3}$ of 18¢? How many are $3\overline{)18}$?

Tell the answers:

6. $\frac{1}{3}$ of 27¢ $\frac{1}{3}$ of 12¢ $\frac{1}{3}$ of 9¢ $\frac{1}{3}$ of 24¢
7. $\frac{1}{3}$ of 21¢ $\frac{1}{3}$ of 15¢ $\frac{1}{3}$ of 3¢ $\frac{1}{3}$ of 18¢

Using $\frac{1}{3}$ and $\frac{1}{2}$

1. Find $\frac{1}{3}$ of 12 marbles; of 24 marbles; of 15 marbles; of 18; of 6; of 21; of 9.

2. Find $\frac{1}{2}$ of 18 books; of 14 books; of 12 books; of 10; of 6; of 16; of 8; of 4.

3. How many are $\frac{1}{3}$ of 6 eggs? of 18 eggs? of 12 eggs? of 3 eggs? of 15? of 9? of 27? of 21?

4. On your paper draw 12 dots, putting them one at a time into 2 equal groups. How many dots are in each group? How many dots are $\frac{1}{2}$ of 12 dots?

5. Draw 12 more dots, putting them one at a time into 3 equal groups. Each group is $\frac{1}{3}$ of the dots. How many dots are $\frac{1}{3}$ of 12 dots?

6. Which group has more dots, $\frac{1}{2}$ of 12 dots or $\frac{1}{3}$ of 12 dots? See ex. 4 and 5.

7. Which group is larger, $\frac{1}{2}$ of 18 apples or $\frac{1}{3}$ of 18 apples? Draw dots if you need help.

8. Which piece of pie is larger, $\frac{1}{2}$ pie or $\frac{1}{3}$ pie? Draw a picture if you do not know the answer.

9. Jim has 6 lollipops. If he divides them equally with Mary, how many lollipops will each one have? If Jim divides the 6 lollipops equally with Mary and Betty, how many lollipops will each one have?

Say the answers:

10. $\frac{1}{2}$ of 14 $\quad$ $\frac{1}{3}$ of 27 $\quad$ $\frac{1}{3}$ of 24 $\quad$ $\frac{1}{2}$ of 8

11. $\frac{1}{3}$ of 21 $\quad$ $\frac{1}{3}$ of 15 $\quad$ $\frac{1}{2}$ of 12 $\quad$ $\frac{1}{3}$ of 9

12. $\frac{1}{2}$ of 10 $\quad$ $\frac{1}{2}$ of 16 $\quad$ $\frac{1}{3}$ of 18 $\quad$ $\frac{1}{2}$ of 6

Dividing Larger Numbers

1. **Problem** Uncle Peter gave Bob and Dick 46 stamps to divide equally. How many stamps will each boy get? How many are $\frac{1}{2}$ of 46 stamps?

   $$\begin{array}{r}23\\2\overline{)46}\end{array}$$

   Explanation Think, "4 tens ÷ 2 = 2 tens." Write 2 over 4 tens. Think, "6 ones ÷ 2 = 3 ones." Write 3 over 6 ones. The answer is 23. Each boy gets 23 stamps.

   Check the work by multiplying 23 by 2. This gives 46, so the work is right.

2. Look at the examples below. Tell how each answer is found. Check the answers:

   $$\begin{array}{r}43\\2\overline{)86}\end{array}\qquad\begin{array}{r}13\\3\overline{)39}\end{array}\qquad\begin{array}{r}32\\2\overline{)64}\end{array}\qquad\begin{array}{r}14\\2\overline{)28}\end{array}\qquad\begin{array}{r}32\\3\overline{)96}\end{array}$$

3. Three boys bought a package of 36 stamps. They divided the stamps equally. How many stamps did each boy get?

4. The boys in ex. 3 paid 69¢ for the package of stamps. They divided the cost equally. How many cents did each boy pay for his stamps?

Divide. Check your work by multiplying:

1. $2\overline{)62}$ $2\overline{)88}$ $3\overline{)63}$ $2\overline{)44}$ $3\overline{)33}$ $2\overline{)26}$

2. $3\overline{)99}$ $2\overline{)24}$ $2\overline{)82}$ $3\overline{)66}$ $2\overline{)84}$ $2\overline{)66}$

3. $2\overline{)68}$ $3\overline{)69}$ $2\overline{)48}$ $2\overline{)22}$ $3\overline{)93}$ $2\overline{)42}$

4. Problem Mr. Green sold 288 eggs last week. He sold half of them to the Star Store. How many eggs did the Star Store buy?

Explanation Do the work as shown at the right. First divide 2 hundreds by 2. Then finish the work as you did on page 258.

$$\begin{array}{r}144\\2\overline{)288}\end{array}$$

5. Look at the examples below. Tell how each answer is found. Check the answers:

$$\begin{array}{r}132\\3\overline{)396}\end{array}\qquad\begin{array}{r}432\\2\overline{)864}\end{array}\qquad\begin{array}{r}142\\2\overline{)284}\end{array}\qquad\begin{array}{r}323\\3\overline{)969}\end{array}\qquad\begin{array}{r}213\\3\overline{)639}\end{array}$$

Divide. Check your work by multiplying:

6. $2\overline{)248}$ $2\overline{)846}$ $2\overline{)446}$ $2\overline{)884}$ $2\overline{)626}$ $2\overline{)282}$

7. $3\overline{)996}$ $3\overline{)663}$ $3\overline{)696}$ $3\overline{)393}$ $3\overline{)333}$ $3\overline{)669}$

8. $2\overline{)468}$ $2\overline{)684}$ $3\overline{)636}$ $2\overline{)686}$ $3\overline{)666}$ $2\overline{)442}$

9. $3\overline{)363}$ $2\overline{)844}$ $3\overline{)399}$ $3\overline{)993}$ $2\overline{)824}$ $3\overline{)339}$

10. $2\overline{)226}$ $3\overline{)999}$ $2\overline{)484}$ $3\overline{)966}$ $2\overline{)888}$ $2\overline{)648}$

11. $3\overline{)933}$ $2\overline{)264}$ $3\overline{)366}$ $2\overline{)662}$ $3\overline{)936}$ $2\overline{)828}$

Circus Day

1. The circus came to town one day last summer. In the afternoon 450 people went to see it. At night 525 people were there. How many people went to the circus all together?
2. Bill liked the elephants best. He saw 8 large elephants and 5 small elephants. How many elephants did Bill see?
3. Susan liked the clowns best. She saw 4 clowns in little cars, 5 clowns on skates, and 8 clowns on bicycles. How many clowns did Susan see?
4. There were 8 clowns on bicycles. Then 3 clowns fell off. How many clowns were left on bicycles?
5. The circus had three rings. At one time there were 7 ponies in one ring, 5 ponies in another ring, and 7 ponies in the third ring. How many ponies were there in the three rings?
6. Bill and Susan spent 30¢ for peanuts for the elephants and 20¢ for ice cream. How much did they spend at the circus?

The Gallon

1. For Mary's party Mother bought a ½-gallon package of ice cream. Mary asked, "What does gallon mean?" So Mother told her that there are 4 quarts in 1 gallon.
2. Mother let Mary take a gallon can and a quart bottle so that she could see that 4 quarts equal 1 gallon. Mary filled the quart bottle with water. She poured it into the gallon can. She did this 3 more times and the water just filled the gallon can. How many quarts make 1 gallon?
3. How many quarts are there in ½ gallon?
4. Can you name something your father buys for the car that is measured by the gallon?
5. Name something else that is sold by the gallon.
6. How many pints are there in 1 quart? How many pints are there in 1 gallon? in 2 gallons?
7. Remember this:

4 quarts = 1 gallon

Tell the numbers to put in the spaces:

8. 3 quarts = . . . pints — 1 gallon = . . . quarts
9. 1 quart = . . . glasses — 8 pints = . . . quarts
10. 8 glasses = . . . pints — 3 gallons = . . . quarts
11. 4 quarts = . . . pints — 6 pints = . . . quarts

How Many Can You Buy?

1. Jane has 12¢ to spend for cakes. Small cakes cost 2¢ each. How many can Jane buy?
2. Larger cakes cost 3¢ each. How many larger cakes can Jane buy with 12¢?
3. Jack has 9¢. How many pencils at 3¢ each can Jack buy for 9¢?
4. Ann has 15¢ to spend for apples. How many apples can she buy if 1 apple costs 3¢?
5. Bob has 27¢ to spend for marbles at 3¢ each. How many marbles can Bob buy?
6. Susan's father gave her 10¢ to buy 2-cent stamps. How many stamps should Susan get?
7. Betty got $6 for Christmas. She wants to buy books that cost $2 each. How many books can she buy?
8. Paper hats cost 3¢ each. How many of these hats can I buy for 24¢?
9. How many 2-cent pencils can Jim buy with 8¢?
10. How many 3-cent stamps can Mary buy with 18¢?

Suppose you know the cost of one thing and how much money you can spend. You divide to find how many things of the same kind you can buy.

Review of Multiplication

Tell the answers:

1. $3 \times 5 + 2 =$ $\quad$ $6 \times 3 + 1 =$ $\quad$ $2 \times 8 + 1 =$

2. $2 \times 9 + 1 =$ $\quad$ $3 \times 9 + 2 =$ $\quad$ $6 \times 2 + 1 =$

3. $3 \times 8 + 2 =$ $\quad$ $7 \times 2 + 2 =$ $\quad$ $3 \times 7 + 1 =$

Multiply each number by 2; multiply each number by 3:

4. 126 $\quad$ 217 $\quad$ 107 $\quad$ 210 $\quad$ 329

5. 315 $\quad$ 209 $\quad$ 300 $\quad$ 124 $\quad$ 130

6. Dick has a new stamp book. Uncle Joe gave Dick 2 packages of stamps for his book. There were 125 stamps in each package. How many stamps did Dick get all together?

7. Uncle Joe paid $.85 for each package of stamps. How much did he pay for the 2 packages?

Multiply. Check your work by going over it:

8.	239	125	318	417	306	224
	2	3	3	2	2	3
9.	321	102	245	309	213	318
	3	8	2	3	4	2
10.	103	206	317	113	235	112
	9	3	3	6	2	5
11.	106	103	129	115	100	425
	2	7	3	3	8	2

More Practice. See ㊲ on page 325.

Grandfather's Chickens

1. **Problem** This year Grandfather bought 126 baby chickens. He bought $\frac{1}{2}$ of them in April. How many baby chickens did he buy in April?

Explanation To find out, you must divide 126 by 2.

You cannot divide 1 hundred by 2 without changing 1 hundred to 10 tens. 10 tens + 2 tens = 12 tens. You can now divide 12 tens by 2. Think, "12 tens ÷ 2 = 6 tens." Write 6 over the 2 of 12 to show that you have divided 12 tens.

$$\begin{array}{r} 63 \\ 2\overline{)126} \end{array}$$

Think, "6 ones ÷ 2 = 3 ones." Write 3 over 6 ones. The answer is 63. Grandfather bought 63 baby chickens in April. To check your work, multiply 63 by 2. If you get 126, your answer is right.

Check

$$\begin{array}{r} 63 \\ 2 \\ \hline 126 \end{array}$$

2. Grandfather said that $\frac{1}{3}$ of the 126 baby chickens were white. How many white chickens were there?

3. Grandfather sells eggs to a store. One week he got 168 eggs from his hens. He sold $\frac{1}{2}$ of them to the store. How many eggs did he sell to the store?

4. Grandfather told Bill that 84 eggs are the same as 7 dozen eggs. Bill multiplied two numbers and found that Grandfather was right. What numbers did he multiply?

Dividing Numbers

1. To find $\frac{1}{2}$ of a number, I divide the number by . . .

2. To find $\frac{1}{3}$ of a number, I divide the number by . . .

Tell the answers:

3. $\frac{1}{2}$ of 12 $\frac{1}{3}$ of 27 $\frac{1}{2}$ of 24 $\frac{1}{3}$ of 39
4. $\frac{1}{3}$ of 15 $\frac{1}{3}$ of 21 $\frac{1}{2}$ of 46 $\frac{1}{2}$ of 66
5. $\frac{1}{3}$ of 24 $\frac{1}{2}$ of 18 $\frac{1}{3}$ of 18 $\frac{1}{2}$ of 14
6. $\frac{1}{2}$ of 16 $\frac{1}{2}$ of 10 $\frac{1}{3}$ of 33 $\frac{1}{3}$ of 69

Divide these numbers. Check your work by multiplying:

7. $2\overline{)102}$ $3\overline{)186}$ $3\overline{)123}$ $2\overline{)142}$ $3\overline{)276}$
8. $2\overline{)168}$ $2\overline{)144}$ $3\overline{)216}$ $3\overline{)129}$ $2\overline{)164}$
9. $3\overline{)246}$ $3\overline{)189}$ $2\overline{)128}$ $3\overline{)156}$ $2\overline{)188}$
10. $3\overline{)153}$ $2\overline{)108}$ $3\overline{)279}$ $3\overline{)213}$ $2\overline{)126}$

11. Jack gave Tom $\frac{1}{3}$ of 96 stamps. How many stamps did Tom get?

12. Mary saved $\frac{1}{2}$ of the $28 she earned last summer. How many dollars did Mary save?

Find the answers. Check your work by multiplying:

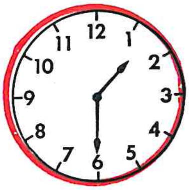
13. $\frac{1}{3}$ of 99 $\frac{1}{3}$ of 243 $\frac{1}{2}$ of 124 $\frac{1}{3}$ of 126
14. $\frac{1}{2}$ of 84 $\frac{1}{3}$ of 159 $\frac{1}{2}$ of 106 $\frac{1}{3}$ of 183
15. $\frac{1}{2}$ of 68 $\frac{1}{2}$ of 166 $\frac{1}{3}$ of 219 $\frac{1}{2}$ of 162
16. $\frac{1}{3}$ of 66 $\frac{1}{2}$ of 182 $\frac{1}{3}$ of 273 $\frac{1}{3}$ of 249

Telling Time

1. Noon comes at 12 o'clock. 9 A.M. means 9 o'clock in the morning. A.M. means **before noon.** 2 P.M. means 2 o'clock in the afternoon. P.M. means **after noon.** What does 6 A.M. mean?

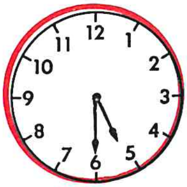
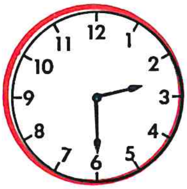
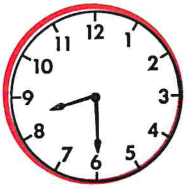
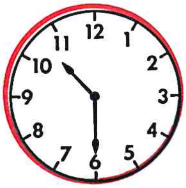
2. You know it takes the long hand of the clock 5 minutes to move from 12 to 1, from 1 to 2, and so on. Begin with 1 and point to each number around the clock as you count the minutes by 5's. How many minutes does it take the long hand to move all around the face of the clock? How many minutes equal 1 hour?

3. From 6 P.M. to 7 P.M. is how many minutes? From 9 A.M. to 10 A.M. is how many minutes?



4. This clock shows 30 minutes past 1, or **half past** 1. It means a half hour after 1. A half hour is how many minutes? A short way to write 30 minutes past 1 is 1:30. You read it "one thirty." How many minutes does it take the long hand of the clock to move halfway around the face of the clock?

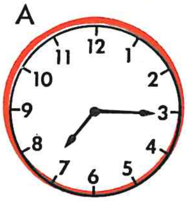
5. Tell the time by each clock. Say it in two different ways. Then write these times in the short way:

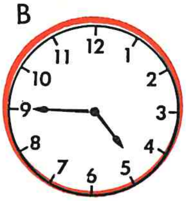
6. Use a toy clock for this exercise, or draw a clock on the blackboard. Place the hands to show 4:30; 9:30; 12:30; 6:30; 7:30; 11:30.

7. Clock A below shows 15 minutes past 7, or 7:15. 7:15 is read "seven fifteen." You often call it a **quarter after** 7 because the long hand has gone a quarter of the way around the clock.

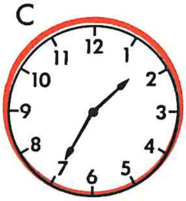
A



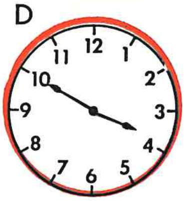
B



C



D



8. Clock B above shows 4:45. You read it "four forty-five." 4:45 is 15 minutes before 5. So you often call it "15 minutes to 5" or "a quarter to 5." A quarter of an hour is the same as 15 minutes.

9. Clock C above shows 1:35, or 25 minutes to 2. What time does clock D show?

10. Use a toy clock for this exercise. Place the clock hands to show these times: 7:20; 8:10; 1:40; 3:15; 2:05; 10:45; 5:35. If you do not have a toy clock, draw a clock face on the blackboard.

Look at the clock in your room at school or at the toy clock. Then answer these questions:

11. How many minutes does the long hand take to go from 1 to 3 on the clock? from 12 to 4 on the clock?

12. How many minutes does the long hand take to go from 10 to 2 on the clock? from 9 to 4?

13. Learn this:

60 minutes = 1 hour

Buying Spot

1. Spot is the dog the Brown children want to buy. His price is \$24. Father will pay $\frac{1}{2}$ of the cost and the children will pay $\frac{1}{2}$. How much will the children have to pay?

2. Bob Brown has saved \$3.15, Dick has saved \$2.90, and Sally has saved \$3.33. How much money have the three children saved? Have they enough money to pay their half of the cost of the dog?

3. How much more money do the children need to earn to make \$12.00 in all? In doing this problem, use the answer to ex. 2.

4. Suppose each one of the Brown children earns \$.90 next week. How much money in all will they earn next week? They need \$2.62. Will they have enough money? Will any money be left? If so, how much?

Write these numbers in columns, add, and check:

1. 64 + 78 + 67 + 43　　38 + 17 + 83 + 22

2. 82 + 23 + 65 + 36　　43 + 62 + 58 + 27

3. 17 + 88 + 86 + 33　　79 + 57 + 78 + 21

4. On four days this week Joe sold 49 papers, 60 papers, 41 papers, and 52 papers. How many papers in all did Joe sell in four days?

5. Susan earned 75¢, 35¢, 60¢, and 85¢ in the last four weeks. How much did Susan earn all together?

Add and check your work:

6.	73	58	36	94	42	92	95
	88	44	59	56	68	96	39
	34	63	53	65	94	27	88
	42	56	69	15	77	48	25

7. Peter had $5.00. He bought a sweater for $3.89. How much change did he get?

8. Peggy had 50 tickets to sell. Now she has only 19 tickets left. How many tickets has Peggy sold?

Subtract. Check your work by adding:

9.	859	470	628	496	592	405
	686	236	249	326	365	146
10.	906	553	641	800	584	637
	408	196	527	94	496	583
11.	900	302	685	477	678	700
	255	106	204	387	153	437

Sharing Things

1. Jack and Bill caught 10 fish. They divided the fish equally between them. To divide 10 fish **equally** between 2 boys means that each boy should have the same number of fish. So Jack and Bill each got $\frac{1}{2}$ of the fish. How many fish did each boy get?

2. Three boys caught 18 fish. They shared the fish **equally.** How many fish did each boy get?
▶ To **share equally** means to **divide equally.** Each boy's share was $\frac{1}{3}$ of 18 fish. How many fish did each boy get?

Suppose things are shared equally by a number of children. You find each child's share by dividing by the number of children.

3. Mary and Alice paid 68¢ for a plant for their mother. They shared the cost equally. What was each girl's share of the cost?

4. Three boys bought a tent for $24. They shared the cost equally. How much did each boy pay?

5. Ann and Susan picked 24 roses. They shared the flowers equally. How many roses did each girl get?

6. Last week Uncle Bill gave $15 to Jane. He told her to share the money equally with Dick and Sally. What was each child's share of the money?

7. Betty bought 12 pencils. She shared them equally with her sister. How many pencils did each girl get?

Using Zero in Division

1. Jim had 6 lollipops. He shared them equally with Bill. How many lollipops did Jim give Bill? How many are 6 ÷ 2?

2. Jim has 0 apples. 0 is called **zero** and means **not any** or **nothing.** 0 apples means Jim has **no** apples. If Jim shares 0 apples with Bill, how many apples will Bill get? How many are 0 ÷ 2?

3. You see that 0 ÷ 2 = 0. Another way to write 0 ÷ 2 = 0 is shown at the right.

$$\begin{array}{r}0\\2\overline{)0}\end{array}$$

4. How much is $6\overline{)0}$? $8\overline{)0}$? $5\overline{)0}$? You see that the answer is always 0, for you have **nothing** to divide.

0 divided by any number = 0.

5. Problem Peter bought 120 marbles. He gave half of them to Tom. How many marbles did Tom get?

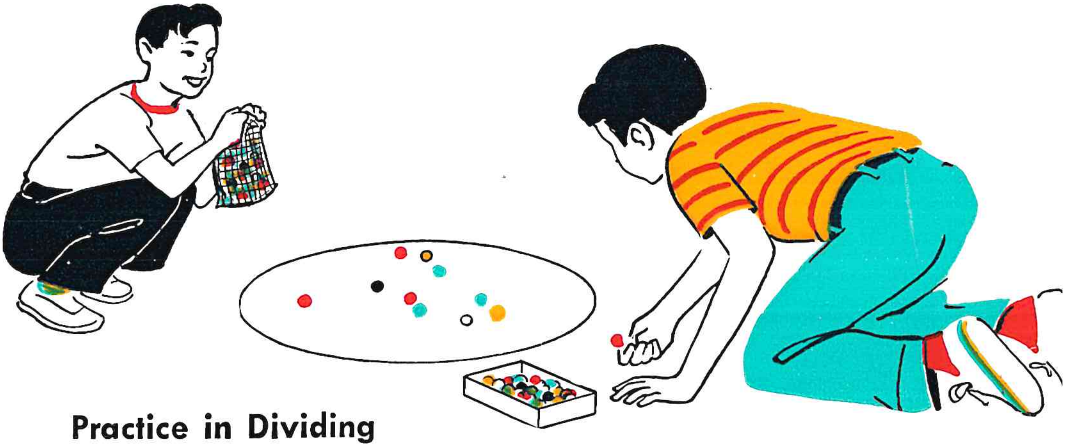
Explanation Think, "12 ÷ 2 = 6." Write 6 over 2. Think, "0 ÷ 2 = 0." Write 0 over 0. The answer is 60. Tom got 60 marbles. To check the work, multiply 60 by 2.

$$\begin{array}{r}60\\2\overline{)120}\end{array}$$

6. Alice earned 80¢. She saved half of it. How much money did Alice save?

7. Father gave Bob 60¢ to buy 3-cent stamps. How many stamps should Bob get?

8. Mary paid 90¢ for 3 tickets to the movies. How much did each ticket cost?



Practice in Dividing

1. Jim and Dick bought 40 marbles in a bag. They shared the marbles equally. How many marbles did each boy get?
2. The bag of marbles in ex. 1 cost 68¢. The 2 boys shared the cost of the marbles also. How much did each boy pay?
3. Jim and Dick are saving to buy a large bag of marbles. There are 88 marbles in it. How many marbles will each boy get if they share the marbles equally?

Divide each number by 2. Then divide each one by 3:

4. 60 180 120 600 186 126

5. 66 660 606 240 666 246

Divide. Check your work by multiplying:

6. $2\overline{)160}$ $3\overline{)150}$ $3\overline{)306}$ $2\overline{)804}$ $3\overline{)300}$

7. $3\overline{)603}$ $2\overline{)106}$ $3\overline{)210}$ $2\overline{)140}$ $3\overline{)216}$

8. $3\overline{)156}$ $3\overline{)900}$ $2\overline{)808}$ $3\overline{)159}$ $2\overline{)400}$

Review

Multiply each number by 2. Then multiply each by 3:

1. 219   328   109   125   314   127

2. 123   207   315   230   226   308

3. What is the product of 3 and 204?

4. Dick can save $1.10 each week. How much money will he have at the end of 5 weeks?

Multiply. Check by going over your work:

5.	446	124	218	138	102	223
	2	3	3	2	6	4

6.	116	249	107	113	103	307
	3	2	3	7	9	2

Find one half of each of these numbers:

7. 264   426   184   108   166   128

8. 222   148   102   162   124   146

Find one third of each of these numbers:

9. 129   153   183   276   213   243

10. 663   273   189   123   219   369

11. The children in 3 rooms shared 96 new music books equally. How many music books did each room get?

Divide. Check your work by multiplying:

12. $3\overline{)699}$ $2\overline{)144}$ $2\overline{)104}$ $3\overline{)183}$ $3\overline{)393}$

13. $2\overline{)188}$ $3\overline{)279}$ $2\overline{)268}$ $3\overline{)993}$ $2\overline{)822}$

Multiplication Facts You Should Know

You have learned these multiplication facts. Say the answers as quickly as you can:

$$\begin{array}{lccccccccc}
\textbf{1.} & 3 & 5 & 2 & 3 & 2 & 9 & 0 & 1 & 2 \\
 & \underline{2} & \underline{3} & \underline{7} & \underline{3} & \underline{4} & \underline{2} & \underline{3} & \underline{2} & \underline{6} \\
\\
\textbf{2.} & 5 & 3 & 2 & 3 & 3 & 2 & 7 & 3 & 2 \\
 & \underline{2} & \underline{6} & \underline{0} & \underline{4} & \underline{1} & \underline{2} & \underline{3} & \underline{9} & \underline{8} \\
\\
\textbf{3.} & 2 & 3 & 2 & 6 & 3 & 9 & 2 & 3 & 6 \\
 & \underline{1} & \underline{0} & \underline{9} & \underline{2} & \underline{7} & \underline{3} & \underline{5} & \underline{8} & \underline{3} \\
\\
\textbf{4.} & 4 & 3 & 8 & 2 & 8 & 7 & 1 & 0 & 4 \\
 & \underline{2} & \underline{5} & \underline{2} & \underline{3} & \underline{3} & \underline{2} & \underline{3} & \underline{2} & \underline{3}
\end{array}$$

Any number $\times$ 0 = 0. Any number $\times$ 1 = the number.

If you forget the answer to a multiplication fact, turn the numbers around. Then try to multiply them.

Division Facts You Should Know

You have learned these division facts. Say the answers as quickly as you can:

5. $2\overline{)2}$ $3\overline{)6}$ $2\overline{)8}$ $2\overline{)12}$ $3\overline{)27}$

6. $3\overline{)0}$ $2\overline{)4}$ $3\overline{)18}$ $2\overline{)16}$ $3\overline{)15}$

7. $3\overline{)9}$ $2\overline{)0}$ $3\overline{)12}$ $3\overline{)24}$ $2\overline{)14}$

8. $2\overline{)6}$ $3\overline{)3}$ $3\overline{)21}$ $2\overline{)10}$ $2\overline{)18}$

How Multiplication Can Help You

▶ If you want to find the answer to a division fact like $3\overline{)12}$, you ask this question: "How many 3's make 12?" To answer this question you have to know that $4 \times 3 = 12$. This multiplication fact tells you that four 3's make 12, so the answer to $3\overline{)12}$ is 4. If you did not know some of the division facts on page 274, first review the multiplication facts. Then try the division facts again.

Tell what numbers should be put in the spaces:

1. You know that $9 \times 3 = 27$, so $3\overline{)27}$ is ...
2. You know that ... $\times 2 = 16$, so $2\overline{)16}$ is ...
3. You know that ... $\times 2 = 12$, so $2\overline{)12}$ is ...
4. You know that ... $\times 3 = 15$, so $3\overline{)15}$ is ...
5. You know that ... $\times 3 = 24$, so $3\overline{)24}$ is ...
6. You know that ... $\times 3 = 18$, so $3\overline{)18}$ is ...
7. You know that ... $\times 2 = 14$, so $2\overline{)14}$ is ...
8. You know that ... $\times 2 = 18$, so $2\overline{)18}$ is ...
9. You know that ... $\times 3 = 21$, so $3\overline{)21}$ is ...
10. You know that ... $\times 2 = 10$, so $2\overline{)10}$ is ...
11. You know that ... $\times 3 = 12$, so $3\overline{)12}$ is ...
12. You know that ... $\times 2 = 18$, so $2 \times$ ... $= 18$.
13. You know that ... $\times 3 = 24$, so $3 \times$ ... $= 24$.
14. You know that ... $\times 3 = 15$, so $3 \times$ ... $= 15$.
15. You know that ... $\times 2 = 16$, so $2 \times$ ... $= 16$.
16. You know that ... $\times 3 = 27$, so $3 \times$ ... $= 27$.

Do You Know the Right Word?

Say the right word that goes in each space. On your paper try to write the word:

1. There are 36 inches in 1 . . .
2. 16 ÷ 2 = 8 is called a . . . fact.
3. Rolls, cookies, and eggs are sold by the . . .
4. The month that has less than 30 days is . . .
5. Thanksgiving Day comes in the month of . . .
6. Thanksgiving Day always comes on . . .
7. To share things equally means to . . . equally.
8. The 12 o'clock that comes between morning and afternoon is called . . .
9. The name of the day that always comes on December 25 is . . .
10. A . . . of milk makes more glasses of milk than a . . . of milk. Use **pint** in one space and **quart** in the other space.
11. The sign ÷ means . . .; the sign + means . . .
12. You . . . to find how many 3's there are in 15.
13. The measure I would use to tell the length of a pencil is the . . . The measure I would use to tell the length of cloth for a dress is the . . . The measure I would use to tell the length of a room is the . . .
14. To find how many inches there are in 4 feet, you must . . . 12 by 4.
15. To find how many feet there are in 2 yards, you must . . . 3 by 2.

Pounds and Ounces

1. Bill is buying a half **pound** of candy. The girl is weighing it for him. A half pound equals 8 **ounces.** You write one half pound like this: $\frac{1}{2}$ pound.

16 ounces = 1 pound
8 ounces = $\frac{1}{2}$ pound

2. You can buy many things by the pound. Name as many things as you can that are bought by the pound.
3. Things that are small and light are weighed by the ounce. A letter that carries a 4-cent stamp weighs 1 ounce or less. A small candy bar weighs about 2 ounces. Can you name anything else that is weighed by the ounce?
4. Ann weighs 53 pounds now. Last spring she weighed 49 pounds. How many more pounds does Ann weigh now than she did last spring?
5. How many ounces are there in 3 pounds?

Chapter Review

Tell what numbers should be put in the spaces:

1. . . . × 3 = 24, so there are . . . 3's in 24.

2. . . . × 2 = 14, so there are . . . 2's in 14.

3. . . . × 3 = 18, so there are . . . 3's in 18.

4. . . . × 3 = 27, so there are . . . 3's in 27.

5. $\frac{1}{2}$ pound = . . . ounces $\frac{1}{3}$ yard = . . . inches

6. $\frac{1}{2}$ hour = . . . minutes $\frac{1}{2}$ foot = . . . inches

7. To find $\frac{1}{2}$ of a number, I divide the number by . . .

8. To find $\frac{1}{3}$ of a number, I divide the number by . . .

Find the answers:

9. $\frac{1}{2}$ of 62 $\frac{1}{3}$ of 129 $\frac{1}{2}$ of 186 $\frac{1}{2}$ of 802

10. $\frac{1}{3}$ of 93 $\frac{1}{3}$ of 216 $\frac{1}{2}$ of 104 $\frac{1}{3}$ of 183

11. $\frac{1}{3}$ of 36 $\frac{1}{2}$ of 148 $\frac{1}{3}$ of 639 $\frac{1}{2}$ of 120

12. $\frac{1}{2}$ of 84 $\frac{1}{3}$ of 150 $\frac{1}{2}$ of 166 $\frac{1}{3}$ of 246

Divide. Check your work by multiplying:

13. $2\overline{)20}$ $3\overline{)360}$ $2\overline{)184}$ $3\overline{)960}$ $3\overline{)696}$ $2\overline{)440}$

14. $2\overline{)44}$ $3\overline{)366}$ $2\overline{)420}$ $2\overline{)208}$ $3\overline{)246}$ $3\overline{)189}$

15. $3\overline{)30}$ $2\overline{)228}$ $3\overline{)330}$ $3\overline{)219}$ $2\overline{)142}$ $3\overline{)930}$

16. $2\overline{)82}$ $3\overline{)309}$ $2\overline{)664}$ $3\overline{)633}$ $2\overline{)684}$ $3\overline{)270}$

17. $3\overline{)96}$ $2\overline{)160}$ $2\overline{)100}$ $3\overline{)936}$ $3\overline{)690}$ $3\overline{)279}$

A Problem Test

Try to get every problem right. Count 10 for each problem you get right.

1. Mother gave Ann 60¢ to buy 3-cent stamps. How many stamps should Ann get?
2. Bob earned \$8.65 selling papers, \$4.50 cutting grass, and \$3.75 helping Mr. Green. How much did Bob earn all together?
3. Betty wants a bicycle that costs \$42. She has \$34 now. How much more money does she need to save?
4. Dick wants to go to summer camp. It costs \$18 a week to go there. How much money does Dick need for 3 weeks at camp?
5. Jim started for school at 8:25 A.M. He got to school at 8:40 A.M. How many minutes did it take Jim to get to school?
6. Peggy bought 9 valentines to send to her friends. She paid 3¢ for each one. How much did the 9 valentines cost?
7. Jack bought a sweater that cost \$4.69. How much change did he get from \$5.00?
8. Aunt Mary saved 660 pretty buttons. She gave Ann $\frac{1}{3}$ of them. How many buttons did Ann get?
9. Three boys shared the cost of a boat. They paid \$120 for it. How much did each boy have to pay?
10. Last year a bus ticket to White River cost \$6.38. This year the same kind of ticket costs \$7.05. How much more does the ticket cost this year than last?

How Much Have You Learned?

If you miss more than one example in a row, turn to the Practice Page for that row.

Practice Pages

Give the answers:

1. $2\overline{)8}$ $2\overline{)14}$ $2\overline{)4}$ $2\overline{)16}$ $2\overline{)12}$ 245

2. $3\overline{)6}$ $3\overline{)24}$ $3\overline{)9}$ $3\overline{)27}$ $3\overline{)12}$ 255

3. $3\overline{)0}$ $2\overline{)0}$ $8\overline{)0}$ $5\overline{)0}$ $9\overline{)0}$ 271

Divide these numbers and check:

4. $2\overline{)86}$ $2\overline{)224}$ $2\overline{)684}$ $2\overline{)826}$ 259

5. $3\overline{)63}$ $3\overline{)693}$ $3\overline{)336}$ $3\overline{)963}$ 259

6. $2\overline{)148}$ $2\overline{)122}$ $2\overline{)186}$ $2\overline{)104}$ 265

7. $3\overline{)156}$ $3\overline{)219}$ $3\overline{)273}$ $3\overline{)246}$ 265

8. $2\overline{)40}$ $2\overline{)220}$ $2\overline{)604}$ $2\overline{)140}$ 272

9. $3\overline{)90}$ $3\overline{)390}$ $3\overline{)180}$ $3\overline{)900}$ 272

Find the answers:

10. $\frac{1}{2}$ of 18 $\frac{1}{2}$ of 6 $\frac{1}{3}$ of 21 257

11. $\frac{1}{2}$ of 242 $\frac{1}{2}$ of 182 $\frac{1}{2}$ of 464 265

12. $\frac{1}{3}$ of 636 $\frac{1}{3}$ of 213 $\frac{1}{3}$ of 249 265

To the Teacher. Chapter 8 teaches the multiplication and division facts for the 4's and 5's and reviews the year's work. Schools not wishing to teach these facts can use the review on pages 300–310, since the 4's and 5's are omitted on those pages.

Chapter 8*

A Children's Party

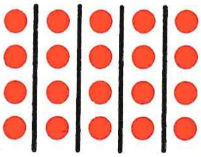
1. You see 4 children at each table. How many children are there at 3 tables? How many are three 4's? How many are 3 × 4?

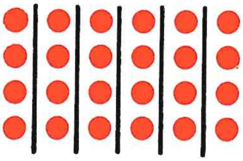
$$\begin{array}{r}4\\4\\\underline{4}\end{array}$$

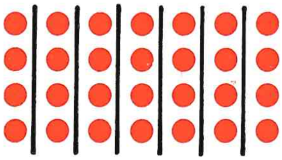
2. How many children are there at 4 tables? To find out, write four 4's and add them. How many are four 4's? How many are 4 × 4?

$$\begin{array}{r}4\\4\\4\\\underline{4}\end{array}$$

3. Look at the groups of dots below. There are 4 dots in each column. How many dots are there in 5 columns? in 6 columns? in 7 columns?





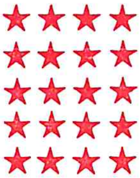


4. How many are 5 × 4? 6 × 4? 7 × 4?

5. Draw dots to help you find the answer to 8 × 4. How many are 8 × 4? Draw more dots to help you find the answer to 9 × 4. 9 × 4 = . . .

***To the Teacher.** See page 327 for suggestions on Chapter 8.

More about the 4's



1. At the left you see stars in rows. Joe says there are 5 rows with 4 stars in each row. How many are 5 × 4?

2. Sally says there are 4 rows with 5 stars in each row. How many are four 5's? How many are 4 × 5?

3. You see that 5 × 4 and 4 × 5 are a pair of multiplication facts. Both facts have 20 for the product.

4. On page 281 you learned that 6 × 4 = 24. What other fact goes with 6 × 4 = 24?

5. 7 × 4 = . . ., so 4 × 7 = . . . Four 7's are . . .

6. 8 × 4 = . . ., so 4 × 8 = . . . Four 8's are . . .

7. 9 × 4 = . . ., so 4 × 9 = . . . Four 9's are . . .

8. Here are the multiplication facts for the 4's. You know the first 6 facts. Learn the other facts:

4	1	4	2	4	3	4	5	4
1	4	2	4	3	4	5	4	4
4	4	8	8	12	12	20	20	16

4	6	4	7	4	8	4	9
6	4	7	4	8	4	9	4
24	24	28	28	32	32	36	36

Multiply these numbers:

9.	4	7	4	4	4	8	4	4	6
	5	4	0	4	2	4	3	9	4

10.	4	1	9	0	4	3	5	2	4
	8	4	4	4	6	4	4	4	7

Using Multiplication Facts

PLANTS
$ 3
EACH

1. At $3 each, find the cost of 4 plants.
2. Find the cost of 4 pencils at 4¢ each.
3. Find the cost of 4 apples at 7¢ each.
4. There are 4 glasses of milk in 1 quart. How many glasses can you get from 6 quarts of milk?

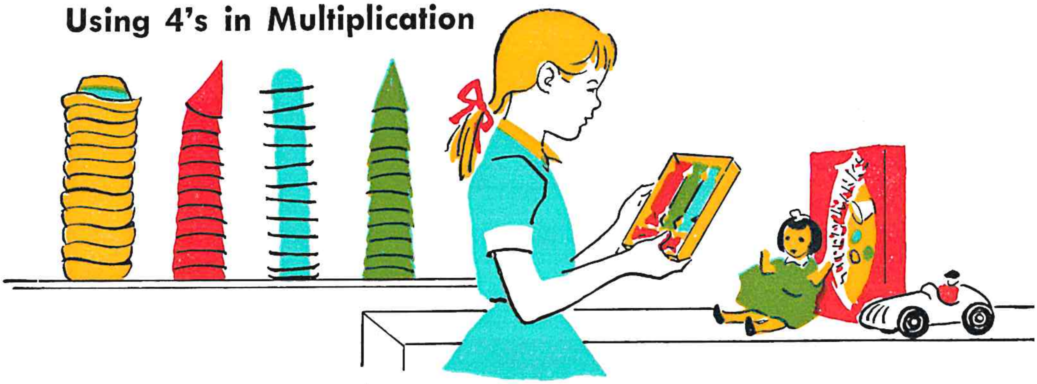
Multiply these numbers:

5.	7	1	3	4	9	3	4	9	4
	4	7	4	6	2	5	2	4	3
6.	5	0	8	0	4	6	8	2	4
	4	4	3	3	8	2	2	3	4
7.	3	6	2	2	1	5	2	3	4
	3	4	6	4	9	3	7	9	1
8.	3	2	4	2	7	3	4	2	4
	8	5	9	2	2	6	0	9	7
9.	4	7	2	1	6	8	1	9	3
	5	3	8	4	3	4	6	3	7

10. Do ex. 5 to 9 again in a new way. Each time after you multiply, add 2 to the answer. For example, in ex. 5, think, "4 × 7 = 28. 28 + 2 = 30." Give only the answer, 30. Do each exercise this way.
11. Multiply each of these numbers by 4; by 3:

6 2 8 5 1 9 3 7 4

Using 4's in Multiplication



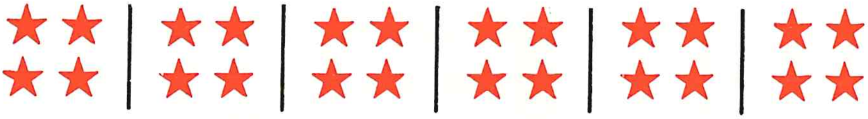
1. Jane bought 4 dozen paper hats for her party. How many paper hats did Jane buy all together?
2. The paper hats cost \$.70 a dozen. How much did 4 dozen cost?
3. Jane also bought 4 prizes to give at her party. Each prize cost \$.75. How much did 4 prizes cost?

Multiply. Check your work by going over it:

4.	53 4	19 4	72 4	205 4	\$.68 4	\$1.24 4
5.	26 4	38 4	47 4	121 4	\$.89 4	\$2.17 4
6.	64 4	91 4	85 4	224 4	\$.37 4	\$2.21 4
7.	44 3	14 5	43 7	547 2	\$.93 4	\$1.14 6
8.	24 9	90 4	34 8	419 4	\$.49 3	\$8.35 2

More Practice. See ㊳ on page 326.

How Many Equal Groups?



1. Here are 24 stars. The stars are divided into groups with 4 stars in each group. How many groups are there? How many 4's are there in 24?

2. Bill said he knew there were 6 groups of 4 stars in 24 stars because six 4's make 24. Is Bill right?

Tell what numbers go in the spaces:

3. . . . 4's make 20, so $4\overline{)20}$ equals . . .

4. . . . 4's make 32, so $4\overline{)32}$ equals . . .

5. . . . 4's make 16, so $4\overline{)16}$ equals . . .

6. . . . 4's make 36, so $4\overline{)36}$ equals . . .

7. . . . 4's make 28, so $4\overline{)28}$ equals . . .

8. Learn these division facts:

$$\begin{array}{r}1\\4\overline{)4}\end{array}\qquad\begin{array}{r}2\\4\overline{)8}\end{array}\qquad\begin{array}{r}3\\4\overline{)12}\end{array}\qquad\begin{array}{r}4\\4\overline{)16}\end{array}\qquad\begin{array}{r}5\\4\overline{)20}\end{array}$$

$$\begin{array}{r}6\\4\overline{)24}\end{array}\qquad\begin{array}{r}7\\4\overline{)28}\end{array}\qquad\begin{array}{r}8\\4\overline{)32}\end{array}\qquad\begin{array}{r}9\\4\overline{)36}\end{array}$$

9. Write the nine division facts in ex. 8 in another way, like this: $4 \div 4 = 1$, $8 \div 4 = 2$, and so on.

10. Read these and give the answers:

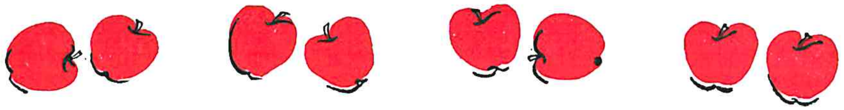
$$4\overline{)20}\qquad 4\overline{)8}\qquad 4\overline{)32}\qquad 4\overline{)16}\qquad 4\overline{)28}\qquad 4\overline{)36}\qquad 4\overline{)24}$$

If you forget the answer to a fact like $20 \div 4$, think, "How many 4's make 20?" What does $4\overline{)20}$ equal?

One Fourth

1. This sandwich is cut into 4 equal pieces. Are these pieces all the same size? What do you call each piece? Another name for **one fourth** is **one quarter.** Which is larger, $\frac{1}{4}$ of a sandwich or $\frac{1}{2}$ of a sandwich?

2. These 8 apples have been put into 4 equal groups.



What do you call each group? How many are $\frac{1}{4}$ of 8? How many are $8 \div 4$? Does $8 \div 4$ have the same answer as $\frac{1}{4}$ of 8?

To find $\frac{1}{4}$ of a number, divide it by 4.

3. Use 12 play pennies. Put them one at a time into 4 equal groups. How many pennies are there in each group? How many are $\frac{1}{4}$ of 12? How many are $12 \div 4$?

4. Jack bought 24 marbles. He gave $\frac{1}{4}$ of them to Tom. How many marbles did Jack give Tom?

5. Ann earned $16. She put $\frac{1}{4}$ of this money in her bank. How many dollars did Ann put in her bank?

Find the answers:

6. $\frac{1}{4}$ of 4 $\quad$ $\frac{1}{4}$ of 20 $\quad$ $\frac{1}{4}$ of 12 $\quad$ $\frac{1}{4}$ of 28

7. $\frac{1}{4}$ of 8 $\quad$ $\frac{1}{4}$ of 32 $\quad$ $\frac{1}{4}$ of 24 $\quad$ $\frac{1}{4}$ of 36

Using the 4's

1. Four children want to share 16 apples equally. How many apples should each child get?
2. How many crayons, at 4¢ each, can you buy for 20¢? for 8¢? for 36¢? for 24¢?
3. Mother baked cookies in a large pan. She put 4 cookies in a row and there were 6 rows. How many cookies were there in that pan?
4. In a parade the 32 children in Ann's room marched by 4's. How many rows did they make?
5. Father rides on the bus 4 times each day. He pays 9¢ each time he rides. How much does Father pay to ride on the bus each day?
6. How many inches are there in 1 yard? How many inches are there in $\frac{1}{4}$ yard?
7. How many ounces are there in 1 pound? How many ounces are there in $\frac{1}{4}$ pound?
8. How many quarts are there in 1 gallon? How many quarts are there in 5 gallons? in 8 gallons?
9. There are 480 tickets for the school circus. The children in Peggy's room will try to sell $\frac{1}{4}$ of them. How many tickets will they try to sell?

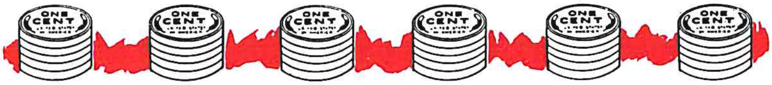
Divide. Check your work by multiplying:

10. $4\overline{)48}$ $4\overline{)284}$ $4\overline{)128}$ $4\overline{)320}$ $4\overline{)368}$ $4\overline{)168}$

11. $4\overline{)80}$ $4\overline{)408}$ $4\overline{)204}$ $4\overline{)164}$ $4\overline{)248}$ $4\overline{)440}$

More Practice. See ㊴ on page 326.

The 5's in Multiplication



1. Dick is counting the pennies in his bank. He has put them in 6 piles of 5 pennies each. Count the pennies by 5's to tell how many there are in all. How many are six 5's? How many are 6 × 5?
2. Ann knows another way to find how many six 5's are. She says, "I know that five 5's are 25 because 5 nickels make 25¢. So six 5's are 5 more than 25, or 30." How many are 6 × 5?
3. How many are seven 5's? Think, "Six 5's are 30, so seven 5's are . . . more than 30, or . . ." How many are 7 × 5?
4. How many are 8 × 5? How many are 9 × 5? Use Ann's way to find the answers.

What numbers should be put in the spaces?

5. $9 \times 5 = \ldots$ $1 \times 5 = \ldots$ $4 \times 5 = \ldots$
6. $2 \times 5 = \ldots$ $6 \times 5 = \ldots$ $0 \times 5 = \ldots$
7. $5 \times 5 = \ldots$ $3 \times 5 = \ldots$ $7 \times 5 = \ldots$
8. At 5¢ each, how much will 7 pencils cost?
9. At 5¢ each, find the cost of 8 crayons.
10. At 5¢ each, how much will 3 oranges cost?
11. At 5¢ each, find the cost of 6 post cards.
12. At 5¢ each, find the cost of 9 buttons.
13. At 5¢ each, find the cost of 4 candles.

The 5's Multiplication Facts

1. How many are 5 × 4? How many are 4 × 5? You see that 5 × 4 and 4 × 5 each have the same product, which is 20. The numbers in 5 × 4 are the same as those in 4 × 5 but they are turned around.

$\begin{array}{r}4\\ \times 5\\ \hline 20\end{array}$ $\quad$ $\begin{array}{r}5\\ \times 4\\ \hline 20\end{array}$

2. How many are 6 × 5? If you turn the numbers around, you get 5 × 6. How many are 5 × 6?

3. How many are 7 × 5? 5 × 7? How many are 8 × 5? 5 × 8? How many are 9 × 5? 5 × 9?

4. Here are the multiplication facts for the 5's. You know the first 8 facts. Learn the other facts:

$$\begin{array}{r}5\\ 1\\ \hline 5\end{array}\quad\begin{array}{r}1\\ 5\\ \hline 5\end{array}\qquad\begin{array}{r}5\\ 2\\ \hline 10\end{array}\quad\begin{array}{r}2\\ 5\\ \hline 10\end{array}\qquad\begin{array}{r}5\\ 3\\ \hline 15\end{array}\quad\begin{array}{r}3\\ 5\\ \hline 15\end{array}\qquad\begin{array}{r}5\\ 4\\ \hline 20\end{array}\quad\begin{array}{r}4\\ 5\\ \hline 20\end{array}\qquad\begin{array}{r}5\\ 5\\ \hline 25\end{array}$$

$$\begin{array}{r}5\\ 6\\ \hline 30\end{array}\quad\begin{array}{r}6\\ 5\\ \hline 30\end{array}\qquad\begin{array}{r}5\\ 7\\ \hline 35\end{array}\quad\begin{array}{r}7\\ 5\\ \hline 35\end{array}\qquad\begin{array}{r}5\\ 8\\ \hline 40\end{array}\quad\begin{array}{r}8\\ 5\\ \hline 40\end{array}\qquad\begin{array}{r}5\\ 9\\ \hline 45\end{array}\quad\begin{array}{r}9\\ 5\\ \hline 45\end{array}$$

Multiply these numbers:

5. $\begin{array}{r}7\\ 5\\ \hline\end{array}\quad\begin{array}{r}1\\ 5\\ \hline\end{array}\quad\begin{array}{r}3\\ 5\\ \hline\end{array}\quad\begin{array}{r}5\\ 6\\ \hline\end{array}\quad\begin{array}{r}5\\ 9\\ \hline\end{array}\quad\begin{array}{r}0\\ 5\\ \hline\end{array}\quad\begin{array}{r}4\\ 5\\ \hline\end{array}\quad\begin{array}{r}8\\ 5\\ \hline\end{array}\quad\begin{array}{r}5\\ 2\\ \hline\end{array}$

6. $\begin{array}{r}6\\ 5\\ \hline\end{array}\quad\begin{array}{r}2\\ 5\\ \hline\end{array}\quad\begin{array}{r}5\\ 8\\ \hline\end{array}\quad\begin{array}{r}5\\ 0\\ \hline\end{array}\quad\begin{array}{r}5\\ 5\\ \hline\end{array}\quad\begin{array}{r}5\\ 3\\ \hline\end{array}\quad\begin{array}{r}9\\ 5\\ \hline\end{array}\quad\begin{array}{r}5\\ 4\\ \hline\end{array}\quad\begin{array}{r}5\\ 7\\ \hline\end{array}$

7. Find the cost of 5 books at $3 each.

8. Find the cost of 5 bus tickets at 7¢ each.

9. Find the cost of 6 sweaters at $5 each.

10. Find the cost of 5 presents at $2 each.

Using the 5's in Multiplication

1. Father took 5 children to the airfield. He paid $.15 to let each child go through the gate. How much did he pay for the 5 children?

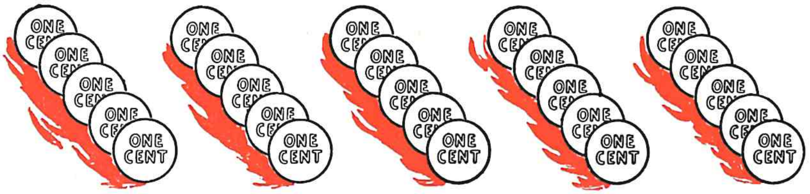
2. Father bought 5 bags of peanuts for the children. Each bag cost $.10. How much did the peanuts cost?

Multiply. Check your work by going over it:

3.	43	20	56	118	$.67	$4.19
	5	5	5	5	5	5
4.	38	52	64	715	$.32	$1.05
	5	7	5	4	5	6
5.	75	98	35	628	$.90	$2.05
	5	5	9	3	5	8

More Practice. See ㊵ on page 326.

Dividing by 5



1. Susan has 25 pennies. She wants to change the pennies into nickels. She puts the pennies in groups of 5 pennies each, as shown above. How many groups are there? How many nickels will Susan get? How many are 25 ÷ 5?

2. Dick says he knows that five 5's make 25, so he knows that 25 ÷ 5 = 5. How many are $5\overline{)25}$?

3. How many 5's make 40? How many are $5\overline{)40}$?

4. You know that six 5's are 30. What division fact can you get from this?

Tell what numbers go in the spaces:

5. . . . 5's make 40, so $5\overline{)40}$ equals . . .

6. . . . 5's make 20, so $5\overline{)20}$ equals . . .

7. . . . 5's make 35, so $5\overline{)35}$ equals . . .

8. . . . 5's make 45, so $5\overline{)45}$ equals . . .

9. . . . 5's = 15   5 ÷ 5 = . . .   20 ÷ 5 = . . .

10. . . . 5's = 30   0 ÷ 5 = . . .   45 ÷ 5 = . . .

11. . . . 5's = 25   10 ÷ 5 = . . .   35 ÷ 5 = . . .

12. Jane has 30 pennies. She wants to have them changed into nickels. How many nickels will she get?

13. Five children shared 40 nuts equally. How many nuts did each child get?

The 5's Facts in Division

1. How many 5's make 15? How many are $5\overline{)15}$?

2. How many 5's make 35? How many are $5\overline{)35}$?

3. Learn these new division facts:

$\begin{array}{r} 1 \\ 5\overline{)5} \end{array}$ $\begin{array}{r} 2 \\ 5\overline{)10} \end{array}$ $\begin{array}{r} 3 \\ 5\overline{)15} \end{array}$ $\begin{array}{r} 4 \\ 5\overline{)20} \end{array}$ $\begin{array}{r} 5 \\ 5\overline{)25} \end{array}$

$\begin{array}{r} 6 \\ 5\overline{)30} \end{array}$ $\begin{array}{r} 7 \\ 5\overline{)35} \end{array}$ $\begin{array}{r} 8 \\ 5\overline{)40} \end{array}$ $\begin{array}{r} 9 \\ 5\overline{)45} \end{array}$

4. Write the nine division facts in ex. 3 in another way, like this: $5 \div 5 = 1$, $10 \div 5 = 2$, and so on.

5. Which division fact in ex. 3 comes from $6 \times 5 = 30$? Which division fact comes from $9 \times 5 = 45$?

6. Read these and give the answers:

$5\overline{)40}$ $5\overline{)5}$ $5\overline{)35}$ $5\overline{)45}$ $5\overline{)25}$ $5\overline{)15}$ $5\overline{)30}$

If you forget the answer to a fact like $40 \div 5$, think, "How many 5's make 40?" What does $5\overline{)40}$ equal?

7. Jack spent 30¢ for 5-cent packages of seeds. How many packages did he buy?

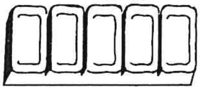
8. At 5¢ a sheet, how many sheets of colored paper can I buy for 25¢?

9. Betty bought 35 plants for her garden. She made 5 rows with the same number of plants in each row. How many plants were there in each row?

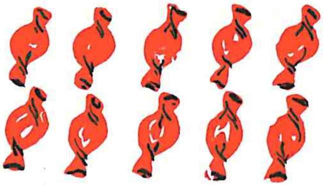
10. At 5¢ each, how many apples can I buy for 40¢?

11. Five children can ride in each car. How many cars are needed to take 20 children on a picnic?

One Fifth



1. This candy bar is marked into 5 equal parts. Each part is **one fifth** of the whole bar. You write one fifth like this: $\frac{1}{5}$. Which is larger, $\frac{1}{5}$ of a candy bar or $\frac{1}{2}$ of a candy bar?



2. Betty Ann had 10 candies. She shared them equally with 4 other girls. The 10 candies were divided into 5 equal groups. What do you call each group? How many are $\frac{1}{5}$ of 10 candies? How many are $10 \div 5$? Does $10 \div 5$ have the same answer as $\frac{1}{5}$ of 10?

To find $\frac{1}{5}$ of a number, divide it by 5.

3. Draw 5 groups of dots on your paper with 4 dots in each group. How many dots did you draw? How many dots are there in each group? How many are $\frac{1}{5}$ of 20? How many are $20 \div 5$?
4. How many are $\frac{1}{5}$ of 40¢? $\frac{1}{5}$ of 30¢? $\frac{1}{5}$ of 5¢?
5. Five boys shared 35 marbles equally. How many marbles did each boy get?

Find the answers:

6. $\frac{1}{5}$ of 5	$\frac{1}{5}$ of 25	$\frac{1}{5}$ of 35	$\frac{1}{5}$ of 15
7. $\frac{1}{2}$ of 8	$\frac{1}{5}$ of 40	$\frac{1}{5}$ of 10	$\frac{1}{5}$ of 30
8. $\frac{1}{4}$ of 4	$\frac{1}{5}$ of 20	$\frac{1}{5}$ of 45	$\frac{1}{4}$ of 28

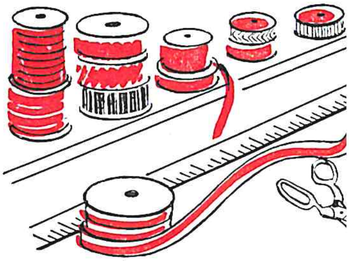
Problems and Practice

1. How many cents are there in one quarter? How many nickels are there in one quarter?

2. Jack paid 20¢ for a box of 5 crayons. How much did 1 crayon cost?

3. Jim bought 5 apples for 30¢. How much did he pay for 1 apple?

4. How many cents are there in one dollar? How many nickels are there in one dollar?



5. A 5-yard roll of ribbon costs 55¢. What is the cost of 1 yard of this ribbon?

6. Mary paid 50¢ for 5 tickets for the bus. How much did 1 ticket cost?

7. Ann saves $\frac{1}{5}$ of all the money she earns. How much will she save when she earns 40¢? 25¢? 50¢? $5?

8. Father gave Peter 15¢. How many 5-cent post cards can Peter buy for 15¢?

9. How many 5-cent candy bars can Peggy buy for 25¢?

Divide. Check your work by multiplying:

10. $5\overline{)55}$ $5\overline{)200}$ $5\overline{)405}$ $5\overline{)150}$ $5\overline{)300}$ $5\overline{)105}$

11. $4\overline{)40}$ $5\overline{)305}$ $5\overline{)100}$ $5\overline{)350}$ $5\overline{)455}$ $5\overline{)500}$

12. $5\overline{)50}$ $5\overline{)155}$ $5\overline{)400}$ $5\overline{)505}$ $5\overline{)250}$ $5\overline{)550}$

13. $2\overline{)84}$ $5\overline{)555}$ $5\overline{)450}$ $5\overline{)205}$ $4\overline{)804}$ $5\overline{)355}$

14. $3\overline{)39}$ $5\overline{)255}$ $3\overline{)693}$ $2\overline{)602}$ $3\overline{)306}$ $4\overline{)480}$

A Test on the 4's and 5's

1. Betty saved 45 pennies. She had them changed into nickels. How many nickels did she get?
2. How many 4-cent pencils can Jim buy for 20¢?
3. Mother paid 50¢ for a 5-pound bag of sugar. How much did 1 pound of sugar cost?
4. Jack earned $80 last summer. He put $\frac{1}{4}$ of it in the bank. How much money did Jack put in the bank?
5. How many cents are there in one dollar? How many nickels are there in one dollar?

How Much Have You Learned?

If you miss more than one example in a row, turn to the Practice Page for that row.

Multiply and check the work:

					Practice Pages
6. 29 4	87 4	123 4	114 7	216 4	284
7. 65 5	29 5	113 5	105 8	117 5	290

Divide these numbers and check:

8. $4\overline{)88}$	$4\overline{)324}$	$4\overline{)208}$	$4\overline{)480}$	287
9. $5\overline{)50}$	$5\overline{)405}$	$5\overline{)300}$	$5\overline{)505}$	294

Everyday Problems

1. At 10:20 on Saturday Bill went to play ball. He came home at 12:05. How long was Bill away from home? Look at a clock if you need help.
2. Dick played in the park from 2:45 until 4:15. How long did he play in the park? Look at a clock.
3. At 3:30 Mary went out to roller skate. Her mother said she could stay out for 45 minutes. At what time should Mary go home?
4. Peter had a dollar in his pocket. He bought 3 cans of dog food at 24¢ each. Did Peter have any money left? If so, how much?
5. At a party Jack guessed that Betty weighed 60 pounds. Betty really weighed 56 pounds. How much less did Betty weigh than Jack guessed?
6. School was out on June 22. It started again on September 7. How many weeks are there from June 22 to September 7? Look at a calendar.
7. In ex. 6, how many days are there from June 22 to September 7?
8. For lunch at school Bob spent 8¢, 4¢, 10¢, 3¢, and 4¢. He had a one-dollar bill to pay for his lunch. How much change did Bob get?
9. Father gave the man a 5-dollar bill to pay for a hammer that cost $1.58. Count the change Father got.
10. At 2:25 Alice began to practice for 45 minutes. At what time would she stop? Look at a clock.

Making Your Own Problems

1. Mary has 50¢ and Bill has 43¢. First make 2 different subtraction problems about their money. Next make 1 addition problem about their money.

2. Bring to school some prices you found in a newspaper. Make an addition problem about some of these prices. Make a subtraction problem about two of them.

3. Make a problem about making change from a half dollar. Make another about change from a dollar.

4. Make problems that use these number words. Make 1 problem for each word or group of words:

sold
earned
bought
2 times as long
4¢ more than
3 times as many
older than
shorter than
shared equally

5. Make an addition problem about picking more roses.

6. Make a subtraction problem about giving away something; about rabbits running away.

7. Make a problem about money you have earned, or saved, or spent.

8. Make a division problem about sharing 246 buttons.

9. Make an addition problem about saving money.

10. Make a multiplication problem about buying or selling boxes of eggs.

11. Make a problem in which you add three 1-place numbers. Make a problem in which you add three 2-place numbers.

12. Make a problem in which you subtract a 2-place number from a 2-place number.

Can You Do These Things?

1. Write 3 two-place numbers, using only the figures 3, 4, and 5. Use each figure only once in each number. Write 3 three-place numbers in the same way. Here are two examples: 53; 435.
2. Write the names of 2 things you measure by the yard; of 2 things you measure by the quart; of 2 things you measure by the pound.
3. Draw 6 clock faces. On these clocks draw hands to show 3:00; 6:00; 11:00; 7:30; 1:30; 9:30.
4. Make a calendar for your birthday month this year.
5. Draw a picture to show that two 6's are 12.
6. Write 5 subtraction facts that have 5 for the remainder. Write 5 addition facts that have 11 for the sum. Write 4 multiplication facts that have 18 for the product.
7. Count by 10's from 27 to 97; from 33 to 103.
8. Count by 5's from 43 to 98; from 26 to 61.
9. Count by 2's from 31 to 81; from 45 to 95.
10. Count by 1's from 20 back to 1.
11. Count by 5's from 50 back to 5.
12. Draw a picture to show 16 marbles divided into two equal groups. Draw another picture to show how 16 marbles can be divided into two groups that are not equal.
13. Add 3 to the answer each time you multiply:

3	2	3	3	2	2	3	3	3
9	7	6	8	5	9	4	7	5

Tell whether you add, subtract, multiply, or divide to get each answer:

1. Betty knows the cost of one pencil. She knows how many pencils she wants to buy. How can she find the cost of all of them?
2. Jim knows the price of a book, a game, and a ball. He wants to buy all three. How can he find the cost of all three things?
3. Ann knows the price of a doll she wants. She has some money but not enough to buy it. How can she find how much more money she needs?
4. Peter and Jim know how many stamps they are to share equally. How can they find each one's share of the stamps?
5. Peggy knows how much money her father gave her to buy three-cent stamps. How can Peggy find the number of stamps she should get?
6. Bob knows how many minutes he practiced after breakfast, how many at noon, and how many after school. How can he find how many minutes he practiced in all?

7. Jim knows how many marbles there are in one bag. He also knows how many bags of marbles he bought. How can he find the number of marbles he bought?
8. Bill and Dick know how many cents each one has. How can they find how much more or less Bill has than Dick?

Addition Review

1. Turn to page 87. Then try to say the right answers to the addition facts.

Add 6 to each number below; add 5; add 7; add 8:

2.	67	25	83	51	39	78	42	16
3.	34	81	92	19	48	26	57	63
4.	56	72	18	37	55	65	84	49

Copy in columns, add, and check:

5. 6 + 2 + 1 + 5

6. 9 + 3 + 0 + 7

7. 4 + 5 + 9 + 3

8. 7 + 2 + 6 + 5

9. $6.23 + $1.47 + $.98

10. $2.17 + $.95 + $4.06

11. $4.89 + $.65 + $3.87

12. $4.00 + $.59 + $1.95

13. At the store Mother spent $4.82, $1.08, and $2.75. How much in all did she spend?

14. In a game Bill got these points: 7, 8, 2, 5. What was Bill's score in the game?

Add these numbers and check your work:

15.	97	35	45	92	73	56	35	47
	23	25	8	27	18	61	88	71
	54	9	76	83	41	23	13	26
	8	64	21	9	17	25	31	63

16.	116	406	564	395	495	290
	571	517	384	309	47	536
17.	123	462	607	187	775	314
	246	438	193	226	28	257

Subtraction Review

1. Turn to page 88. Then try to say the right answers to the subtraction facts.

Subtract 5 from each number; subtract 7; subtract 10:

2.	88	37	29	65	46	90	54	63
3.	73	16	82	97	21	39	78	94
4.	42	70	51	34	68	95	13	40

5. Jack weighs 82 pounds. Peter weighs 76 pounds. How many more pounds does Jack weigh than Peter?

Subtract and check your work:

6.	98	87	100	609	405	227	$2.80
	73	80	27	386	209	163	1.56
7.	69	95	154	173	945	631	$5.24
	25	57	96	85	766	258	4.65
8.	62	93	164	863	200	608	$8.26
	57	34	87	293	94	409	4.36
9.	71	64	139	522	115	831	$9.10
	17	33	74	299	35	184	2.12
10.	72	61	147	768	700	600	$4.98
	47	45	98	574	419	133	1.81

11. How much is 500 less 364? 300 less 198?

12. From 854 subtract 578; from 251 subtract 202.

13. Subtract 396 from 678; 443 from 900; 208 from 693.

14. From $8.00 subtract $6.77; from $3.57 take $1.29.

Reviewing Measures

1. Which is longer, 10 inches or $\frac{1}{3}$ yard?

2. Which is more, 37 ounces or 2 pounds?

3. Which is longer, 40 minutes or $\frac{1}{2}$ hour?

4. Which is more, $\frac{1}{2}$ dozen rolls or 8 rolls?

5. Which is more, $\frac{1}{2}$ pound or 5 ounces?

Tell the numbers that should go in the spaces:

6. 1 hour = . . . minutes

7. 1 pint = . . . glasses

8. 1 yard = . . . inches

9. 6 pints = . . . quarts

10. 2 gallons = . . . quarts

11. 9 feet = . . . yards

In ex. 12 to 21, tell which of these words goes in each space. Use each word only once:

hours inches pounds quarts feet
pint dozen minutes ounces yard

12. There are 3 feet in 1 . . .

13. Mother baked 4 . . . cookies this morning.

14. Susan is a little more than 4 . . . tall.

15. Bill worked 6 . . . last Saturday.

16. Two glasses of milk make 1 . . . of milk.

17. It takes Betty 5 . . . to walk to school.

18. Father weighs 155 . . . this spring.

19. Each week Mother buys 14 . . . of milk.

20. A small candy bar weighs 3 . . .

21. Peter's red crayon is 4 . . . long.

A Problem Test

Tell whether you add, subtract, multiply, or divide to work each problem. Then work the problem:

1. Bob paid 99¢ for 3 tickets to the movies. How much did each ticket cost?
2. This morning Betty made 50 cookies. She burned 8 cookies. How many cookies were not burned?
3. Bill had 88 stamps in his book. He bought 50 more last week. Today Uncle Dick gave him 75 stamps. How many stamps has Bill now?
4. Sally had $1.00 when she went to the store. When she came home she had $.13 left. How much money did Sally spend?
5. Father gave Ann 30¢ to buy 3-cent stamps. How many stamps did Ann get?
6. Roses are $4 a dozen. How much will the children pay for $\frac{1}{2}$ dozen roses for Mother?
7. Miss White bought 2 boxes of Christmas cards. There were 25 cards in each box. How many cards did she get in 2 boxes?
8. Jack gave the man a dollar to pay for a 69-cent book. How much change did the man give Jack?
9. Father and 8 children each ate a 12-cent cup of ice cream. How much did Father pay all together?
10. Ann earned 75¢ today. Betty earned 55¢. How much more did Ann earn than Betty today?

This is the last Problem Test. Did you have every problem right?

Oral Review

1. Count by 10's from 70 to 120; from 35 to 95. Count by 5's from 165 to 200. Count by 2's from 76 to 110. Count by 100's from 170 to 570.

2. Tell what these numbers mean: 702, 3580, 4060.

3. Read these prices: $8.65, $4.00, $9.06, $.57.

4. Which is more, $\frac{1}{3}$ of a cake or $\frac{1}{2}$ of that cake?

5. Find one half of each number: 8, 16, 10, 18, 14, 6, 12.

6. Tell the date of today; of a week from today.

7. Name the days of the week; the months of the year.

8. Find one third of each number: 24, 9, 15, 27, 21.

Tell the answers. Watch the signs:

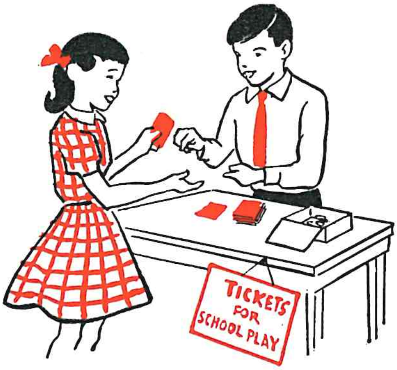
9. 24 + 4   87 − 4   79 + 6   14 ÷ 2   29 + 9
10. 52 + 8   46 + 7   33 + 9   30 − 8   18 ÷ 3
11. 36 − 5   80 + 9   91 + 8   17 + 5   25 − 7
12. 24 ÷ 3   22 − 6   18 ÷ 2   45 + 5   88 + 6

Tell the number of

13. dimes in a dollar.
14. quarts in a gallon.
15. inches in a foot.
16. ounces in a pound.
17. pints in a quart.
18. things in a dozen.
19. feet in a yard.
20. minutes in an hour.

Tell the word that should go in each space:

21. × means . . .   ¢ means . . .   + means . . .
22. − means . . . $ means . . .   ÷ means . . .



1. Peter is selling tickets for a school play. The tickets are 19¢ for children. Susan gave Peter a half dollar. Peter gave Susan 1 penny, 1 nickel, and 1 quarter in change. As he gave her the change, he counted it like this: He began with the cost of the ticket and said "19." Then he handed her 1 penny and said "20"; next he gave her the nickel and said "25"; and then he gave her the quarter and said "50." Tell how Peter would count the change if a woman gave him 1 dollar for a 35-cent ticket.
2. Count the change from a quarter for things that cost:
   18¢ 7¢ 12¢ 20¢ 10¢ 9¢ 11¢ 21¢
3. Count the change from 1 dollar for things that cost:
   20¢ 56¢ 37¢ 82¢ 70¢ 48¢ 65¢

How many cents do these coins make?

4. 6 dimes
5. 9 nickels
6. 2 quarters
7. 1 dime and 4 nickels
8. 4 dimes and 1 nickel
9. 1 quarter and 6 nickels
10. 1 half dollar, 1 dime, 1 nickel, 4 pennies
11. 1 half dollar, 1 quarter, 1 nickel, 1 dime
12. 1 half dollar, 1 quarter, 1 dime, 3 pennies
13. 2 quarters, 2 dimes, 2 nickels, 2 pennies
14. 3 quarters, 1 dime, 1 nickel, 4 pennies

Mixed Practice

1. Find the product of 219 and 3.
2. How many 3's are there in 903?
3. Write the next three Roman numbers after VIII.
4. Find the sum of $2.38, $.96, and $1.50.
5. How much more is 700 than 238?
6. How many flowers are there in ½ dozen?
7. How many cents are there in 6 dimes?
8. How many dimes are there in 1 dollar?
9. How many minutes are there in half an hour?
10. How many ounces are there in half a pound?
11. How many inches are there in 3 yards?
12. Add 275 to each of these numbers:

    114 403 310 600 715 492
    525 149 468 136 697 358

13. Subtract 183 from each of these numbers:

    498 692 337 511 196 253
    601 380 900 572 425 250

14. Multiply each number by 2:

    43 62 47 128 307 415 329
    51 93 56 209 418 234 136

15. Divide each number by 3:

    39 90 69 186 906 150 216
    96 99 60 273 600 243 123
    63 30 93 129 360 270 159

Multiplication and Division

1. Turn to page 274. Try to say the right answers to the multiplication and the division facts you have learned this year.

Multiply each number by 2; multiply each one by 3:

2. 16 24 15 38 42 87 59

3. 81 47 90 63 26 70 34

Multiply. Check by going over your work:

4. $\begin{array}{r} 17 \\ 3 \\ \hline \end{array}$ $\begin{array}{r} 50 \\ 2 \\ \hline \end{array}$ $\begin{array}{r} 121 \\ 4 \\ \hline \end{array}$ $\begin{array}{r} 102 \\ 5 \\ \hline \end{array}$ $\begin{array}{r} \$4.26 \\ 2 \\ \hline \end{array}$ $\begin{array}{r} \$2.24 \\ 3 \\ \hline \end{array}$

5. $\begin{array}{r} 45 \\ 2 \\ \hline \end{array}$ $\begin{array}{r} 43 \\ 3 \\ \hline \end{array}$ $\begin{array}{r} 200 \\ 7 \\ \hline \end{array}$ $\begin{array}{r} 406 \\ 2 \\ \hline \end{array}$ $\begin{array}{r} \$1.03 \\ 8 \\ \hline \end{array}$ $\begin{array}{r} \$3.28 \\ 2 \\ \hline \end{array}$

6. $\begin{array}{r} 12 \\ 9 \\ \hline \end{array}$ $\begin{array}{r} 18 \\ 2 \\ \hline \end{array}$ $\begin{array}{r} 125 \\ 3 \\ \hline \end{array}$ $\begin{array}{r} 110 \\ 6 \\ \hline \end{array}$ $\begin{array}{r} \$2.15 \\ 3 \\ \hline \end{array}$ $\begin{array}{r} \$2.12 \\ 4 \\ \hline \end{array}$

7. Mother needs 70 inches of ribbon for her hat. Is this about 2 yards or about 3 yards of ribbon?

8. Dick and Bob shared a bag of marbles that Uncle Jim gave them. There were 100 marbles in the bag. How many marbles did each boy get?

Divide. Check your work by multiplying:

9. $2\overline{)14}$ $3\overline{)60}$ $3\overline{)159}$ $2\overline{)106}$ $2\overline{)120}$ $3\overline{)210}$

10. $3\overline{)27}$ $2\overline{)80}$ $2\overline{)146}$ $3\overline{)270}$ $3\overline{)303}$ $2\overline{)620}$

11. $3\overline{)24}$ $2\overline{)18}$ $3\overline{)180}$ $2\overline{)168}$ $3\overline{)609}$ $3\overline{)126}$

12. $3\overline{)63}$ $2\overline{)66}$ $3\overline{)129}$ $2\overline{)124}$ $3\overline{)909}$ $2\overline{)462}$

Review Problems

1. Jack pays 10¢ to telephone home from school. How much does he pay for 8 telephone calls?
2. Where Betty lives telephone calls cost 15¢ each. Find the cost of 2 telephone calls; of 3 calls.
3. When Betty telephones to Grandmother, the call costs $.30. How much do 3 calls to Grandmother cost?
4. Jim had 10 rabbits. He sold 3 of them. How many rabbits did Jim have then?
5. Last week 3 busses took 120 children to see a big farm. Each bus carried the same number of children. How many children rode in each bus?
6. Peggy is saving money for a new cage for her bird. The cage costs $6.49. Peggy has $4.75 now. How much more money does she need to save?
7. Peter wants to buy a 65-cent book and a 15-cent ruler. How much money does he need for these things?
8. Susan paid 60¢ for 3 cans of dog food. What was the cost of 1 can?
9. Bill had 25 tickets to sell for the ball game. Now he has only 6 left. How many tickets has Bill sold?
10. Ann has saved $1.75 for a ring. Today she got $5.00 for her birthday. How much has Ann now?
11. Two boys shared equally the $6 they earned cutting grass. How much money did each boy get?
12. At 3 for 99¢, find the cost of 1 ticket.

What Will You Do This Summer?

1. Jim will go to Grandfather's farm on July 1 and come home on September 2. How many weeks will he be on the farm? Use a calendar to find the answer.
2. Betty says this summer there will be no school for 11 weeks. She will go to camp at Mountain Lake for 6 weeks. The rest of the time she will stay home. How many weeks will Betty be at home?
3. Bob will go to Green Lake on a bus. He will leave at 10:30 A.M. and get there at 4:30 P.M. the same day. How many hours will Bob be on the bus? Look at a clock.
4. Sally has been saving money to go to White River. She needs \$25 in all. Now she has \$21. How much more does Sally need?
5. Jack has saved \$3 a week for the last 9 weeks to spend this summer. How much money has Jack saved?
6. Uncle Tom gave Dick and Mary \$60 to spend this summer. They shared the money equally. How much did each one get?
7. Dick will use \$7 to buy a bus ticket to Sugar Hill. How much of his share will Dick have left? See ex. 6.
8. Try to make a problem about something you want to do this summer. Ask the other children to work it.

Test on the Year's Work

1. Say the answers to all the number facts on pages 87, 88, and 274.

2. Count to 100 by 10's; by 5's; by 2's.

3. Tell what these numbers mean: 493, 2800, 7006.

4. Add:

$$\begin{array}{r} 467 \\ \underline{339} \end{array}$$

5. Subtract:

$$\begin{array}{r} 695 \\ \underline{368} \end{array}$$

6. Subtract:

$$\begin{array}{r} 600 \\ \underline{135} \end{array}$$

7. Add:

$$\begin{array}{r} \$2.58 \\ .89 \\ \underline{4.05} \end{array}$$

8. Multiply:

$$\begin{array}{r} 127 \\ \underline{3} \end{array}$$

9. Multiply:

$$\begin{array}{r} 409 \\ \underline{2} \end{array}$$

10. Divide:

$$2\overline{)642}$$

11. Divide:

$$3\overline{)210}$$

12. How many glasses are there in 3 pints of milk?

13. How many yards are there in 12 feet of ribbon?

14. How many ounces are there in 2 pounds?

15. Find the sum of 37, 59, 8, and 16.

16. Find the cost of 3 tickets at $.75 each.

17. At 2¢ each, how many stamps can I buy for 40¢?

18. Mary bought 18 post cards. She wants to keep 5 and send the others. How many cards will she send?

19. Bob paid $.69 for a tie. He gave the man a dollar. How much change did Bob get?

20. Count Bob's change in two different ways.

The 100 Addition Facts

$\begin{array}{r}0\\0\\\hline 0\end{array}$	$\begin{array}{r}1\\0\\\hline 1\end{array}$	$\begin{array}{r}2\\0\\\hline 2\end{array}$	$\begin{array}{r}3\\0\\\hline 3\end{array}$	$\begin{array}{r}4\\0\\\hline 4\end{array}$	$\begin{array}{r}5\\0\\\hline 5\end{array}$	$\begin{array}{r}6\\0\\\hline 6\end{array}$	$\begin{array}{r}7\\0\\\hline 7\end{array}$	$\begin{array}{r}8\\0\\\hline 8\end{array}$	$\begin{array}{r}9\\0\\\hline 9\end{array}$
$\begin{array}{r}0\\1\\\hline 1\end{array}$	$\begin{array}{r}1\\1\\\hline 2\end{array}$	$\begin{array}{r}2\\1\\\hline 3\end{array}$	$\begin{array}{r}3\\1\\\hline 4\end{array}$	$\begin{array}{r}4\\1\\\hline 5\end{array}$	$\begin{array}{r}5\\1\\\hline 6\end{array}$	$\begin{array}{r}6\\1\\\hline 7\end{array}$	$\begin{array}{r}7\\1\\\hline 8\end{array}$	$\begin{array}{r}8\\1\\\hline 9\end{array}$	$\begin{array}{r}9\\1\\\hline 10\end{array}$
$\begin{array}{r}0\\2\\\hline 2\end{array}$	$\begin{array}{r}1\\2\\\hline 3\end{array}$	$\begin{array}{r}2\\2\\\hline 4\end{array}$	$\begin{array}{r}3\\2\\\hline 5\end{array}$	$\begin{array}{r}4\\2\\\hline 6\end{array}$	$\begin{array}{r}5\\2\\\hline 7\end{array}$	$\begin{array}{r}6\\2\\\hline 8\end{array}$	$\begin{array}{r}7\\2\\\hline 9\end{array}$	$\begin{array}{r}8\\2\\\hline 10\end{array}$	$\begin{array}{r}9\\2\\\hline 11\end{array}$
$\begin{array}{r}0\\3\\\hline 3\end{array}$	$\begin{array}{r}1\\3\\\hline 4\end{array}$	$\begin{array}{r}2\\3\\\hline 5\end{array}$	$\begin{array}{r}3\\3\\\hline 6\end{array}$	$\begin{array}{r}4\\3\\\hline 7\end{array}$	$\begin{array}{r}5\\3\\\hline 8\end{array}$	$\begin{array}{r}6\\3\\\hline 9\end{array}$	$\begin{array}{r}7\\3\\\hline 10\end{array}$	$\begin{array}{r}8\\3\\\hline 11\end{array}$	$\begin{array}{r}9\\3\\\hline 12\end{array}$
$\begin{array}{r}0\\4\\\hline 4\end{array}$	$\begin{array}{r}1\\4\\\hline 5\end{array}$	$\begin{array}{r}2\\4\\\hline 6\end{array}$	$\begin{array}{r}3\\4\\\hline 7\end{array}$	$\begin{array}{r}4\\4\\\hline 8\end{array}$	$\begin{array}{r}5\\4\\\hline 9\end{array}$	$\begin{array}{r}6\\4\\\hline 10\end{array}$	$\begin{array}{r}7\\4\\\hline 11\end{array}$	$\begin{array}{r}8\\4\\\hline 12\end{array}$	$\begin{array}{r}9\\4\\\hline 13\end{array}$
$\begin{array}{r}0\\5\\\hline 5\end{array}$	$\begin{array}{r}1\\5\\\hline 6\end{array}$	$\begin{array}{r}2\\5\\\hline 7\end{array}$	$\begin{array}{r}3\\5\\\hline 8\end{array}$	$\begin{array}{r}4\\5\\\hline 9\end{array}$	$\begin{array}{r}5\\5\\\hline 10\end{array}$	$\begin{array}{r}6\\5\\\hline 11\end{array}$	$\begin{array}{r}7\\5\\\hline 12\end{array}$	$\begin{array}{r}8\\5\\\hline 13\end{array}$	$\begin{array}{r}9\\5\\\hline 14\end{array}$
$\begin{array}{r}0\\6\\\hline 6\end{array}$	$\begin{array}{r}1\\6\\\hline 7\end{array}$	$\begin{array}{r}2\\6\\\hline 8\end{array}$	$\begin{array}{r}3\\6\\\hline 9\end{array}$	$\begin{array}{r}4\\6\\\hline 10\end{array}$	$\begin{array}{r}5\\6\\\hline 11\end{array}$	$\begin{array}{r}6\\6\\\hline 12\end{array}$	$\begin{array}{r}7\\6\\\hline 13\end{array}$	$\begin{array}{r}8\\6\\\hline 14\end{array}$	$\begin{array}{r}9\\6\\\hline 15\end{array}$
$\begin{array}{r}0\\7\\\hline 7\end{array}$	$\begin{array}{r}1\\7\\\hline 8\end{array}$	$\begin{array}{r}2\\7\\\hline 9\end{array}$	$\begin{array}{r}3\\7\\\hline 10\end{array}$	$\begin{array}{r}4\\7\\\hline 11\end{array}$	$\begin{array}{r}5\\7\\\hline 12\end{array}$	$\begin{array}{r}6\\7\\\hline 13\end{array}$	$\begin{array}{r}7\\7\\\hline 14\end{array}$	$\begin{array}{r}8\\7\\\hline 15\end{array}$	$\begin{array}{r}9\\7\\\hline 16\end{array}$
$\begin{array}{r}0\\8\\\hline 8\end{array}$	$\begin{array}{r}1\\8\\\hline 9\end{array}$	$\begin{array}{r}2\\8\\\hline 10\end{array}$	$\begin{array}{r}3\\8\\\hline 11\end{array}$	$\begin{array}{r}4\\8\\\hline 12\end{array}$	$\begin{array}{r}5\\8\\\hline 13\end{array}$	$\begin{array}{r}6\\8\\\hline 14\end{array}$	$\begin{array}{r}7\\8\\\hline 15\end{array}$	$\begin{array}{r}8\\8\\\hline 16\end{array}$	$\begin{array}{r}9\\8\\\hline 17\end{array}$
$\begin{array}{r}0\\9\\\hline 9\end{array}$	$\begin{array}{r}1\\9\\\hline 10\end{array}$	$\begin{array}{r}2\\9\\\hline 11\end{array}$	$\begin{array}{r}3\\9\\\hline 12\end{array}$	$\begin{array}{r}4\\9\\\hline 13\end{array}$	$\begin{array}{r}5\\9\\\hline 14\end{array}$	$\begin{array}{r}6\\9\\\hline 15\end{array}$	$\begin{array}{r}7\\9\\\hline 16\end{array}$	$\begin{array}{r}8\\9\\\hline 17\end{array}$	$\begin{array}{r}9\\9\\\hline 18\end{array}$

The 100 Subtraction Facts

$\begin{array}{r}0\\\underline{0}\\0\end{array}$	$\begin{array}{r}1\\\underline{0}\\1\end{array}$	$\begin{array}{r}2\\\underline{0}\\2\end{array}$	$\begin{array}{r}3\\\underline{0}\\3\end{array}$	$\begin{array}{r}4\\\underline{0}\\4\end{array}$	$\begin{array}{r}5\\\underline{0}\\5\end{array}$	$\begin{array}{r}6\\\underline{0}\\6\end{array}$	$\begin{array}{r}7\\\underline{0}\\7\end{array}$	$\begin{array}{r}8\\\underline{0}\\8\end{array}$	$\begin{array}{r}9\\\underline{0}\\9\end{array}$
$\begin{array}{r}1\\\underline{1}\\0\end{array}$	$\begin{array}{r}2\\\underline{1}\\1\end{array}$	$\begin{array}{r}3\\\underline{1}\\2\end{array}$	$\begin{array}{r}4\\\underline{1}\\3\end{array}$	$\begin{array}{r}5\\\underline{1}\\4\end{array}$	$\begin{array}{r}6\\\underline{1}\\5\end{array}$	$\begin{array}{r}7\\\underline{1}\\6\end{array}$	$\begin{array}{r}8\\\underline{1}\\7\end{array}$	$\begin{array}{r}9\\\underline{1}\\8\end{array}$	$\begin{array}{r}10\\\underline{1}\\9\end{array}$
$\begin{array}{r}2\\\underline{2}\\0\end{array}$	$\begin{array}{r}3\\\underline{2}\\1\end{array}$	$\begin{array}{r}4\\\underline{2}\\2\end{array}$	$\begin{array}{r}5\\\underline{2}\\3\end{array}$	$\begin{array}{r}6\\\underline{2}\\4\end{array}$	$\begin{array}{r}7\\\underline{2}\\5\end{array}$	$\begin{array}{r}8\\\underline{2}\\6\end{array}$	$\begin{array}{r}9\\\underline{2}\\7\end{array}$	$\begin{array}{r}10\\\underline{2}\\8\end{array}$	$\begin{array}{r}11\\\underline{2}\\9\end{array}$
$\begin{array}{r}3\\\underline{3}\\0\end{array}$	$\begin{array}{r}4\\\underline{3}\\1\end{array}$	$\begin{array}{r}5\\\underline{3}\\2\end{array}$	$\begin{array}{r}6\\\underline{3}\\3\end{array}$	$\begin{array}{r}7\\\underline{3}\\4\end{array}$	$\begin{array}{r}8\\\underline{3}\\5\end{array}$	$\begin{array}{r}9\\\underline{3}\\6\end{array}$	$\begin{array}{r}10\\\underline{3}\\7\end{array}$	$\begin{array}{r}11\\\underline{3}\\8\end{array}$	$\begin{array}{r}12\\\underline{3}\\9\end{array}$
$\begin{array}{r}4\\\underline{4}\\0\end{array}$	$\begin{array}{r}5\\\underline{4}\\1\end{array}$	$\begin{array}{r}6\\\underline{4}\\2\end{array}$	$\begin{array}{r}7\\\underline{4}\\3\end{array}$	$\begin{array}{r}8\\\underline{4}\\4\end{array}$	$\begin{array}{r}9\\\underline{4}\\5\end{array}$	$\begin{array}{r}10\\\underline{4}\\6\end{array}$	$\begin{array}{r}11\\\underline{4}\\7\end{array}$	$\begin{array}{r}12\\\underline{4}\\8\end{array}$	$\begin{array}{r}13\\\underline{4}\\9\end{array}$
$\begin{array}{r}5\\\underline{5}\\0\end{array}$	$\begin{array}{r}6\\\underline{5}\\1\end{array}$	$\begin{array}{r}7\\\underline{5}\\2\end{array}$	$\begin{array}{r}8\\\underline{5}\\3\end{array}$	$\begin{array}{r}9\\\underline{5}\\4\end{array}$	$\begin{array}{r}10\\\underline{5}\\5\end{array}$	$\begin{array}{r}11\\\underline{5}\\6\end{array}$	$\begin{array}{r}12\\\underline{5}\\7\end{array}$	$\begin{array}{r}13\\\underline{5}\\8\end{array}$	$\begin{array}{r}14\\\underline{5}\\9\end{array}$
$\begin{array}{r}6\\\underline{6}\\0\end{array}$	$\begin{array}{r}7\\\underline{6}\\1\end{array}$	$\begin{array}{r}8\\\underline{6}\\2\end{array}$	$\begin{array}{r}9\\\underline{6}\\3\end{array}$	$\begin{array}{r}10\\\underline{6}\\4\end{array}$	$\begin{array}{r}11\\\underline{6}\\5\end{array}$	$\begin{array}{r}12\\\underline{6}\\6\end{array}$	$\begin{array}{r}13\\\underline{6}\\7\end{array}$	$\begin{array}{r}14\\\underline{6}\\8\end{array}$	$\begin{array}{r}15\\\underline{6}\\9\end{array}$
$\begin{array}{r}7\\\underline{7}\\0\end{array}$	$\begin{array}{r}8\\\underline{7}\\1\end{array}$	$\begin{array}{r}9\\\underline{7}\\2\end{array}$	$\begin{array}{r}10\\\underline{7}\\3\end{array}$	$\begin{array}{r}11\\\underline{7}\\4\end{array}$	$\begin{array}{r}12\\\underline{7}\\5\end{array}$	$\begin{array}{r}13\\\underline{7}\\6\end{array}$	$\begin{array}{r}14\\\underline{7}\\7\end{array}$	$\begin{array}{r}15\\\underline{7}\\8\end{array}$	$\begin{array}{r}16\\\underline{7}\\9\end{array}$
$\begin{array}{r}8\\\underline{8}\\0\end{array}$	$\begin{array}{r}9\\\underline{8}\\1\end{array}$	$\begin{array}{r}10\\\underline{8}\\2\end{array}$	$\begin{array}{r}11\\\underline{8}\\3\end{array}$	$\begin{array}{r}12\\\underline{8}\\4\end{array}$	$\begin{array}{r}13\\\underline{8}\\5\end{array}$	$\begin{array}{r}14\\\underline{8}\\6\end{array}$	$\begin{array}{r}15\\\underline{8}\\7\end{array}$	$\begin{array}{r}16\\\underline{8}\\8\end{array}$	$\begin{array}{r}17\\\underline{8}\\9\end{array}$
$\begin{array}{r}9\\\underline{9}\\0\end{array}$	$\begin{array}{r}10\\\underline{9}\\1\end{array}$	$\begin{array}{r}11\\\underline{9}\\2\end{array}$	$\begin{array}{r}12\\\underline{9}\\3\end{array}$	$\begin{array}{r}13\\\underline{9}\\4\end{array}$	$\begin{array}{r}14\\\underline{9}\\5\end{array}$	$\begin{array}{r}15\\\underline{9}\\6\end{array}$	$\begin{array}{r}16\\\underline{9}\\7\end{array}$	$\begin{array}{r}17\\\underline{9}\\8\end{array}$	$\begin{array}{r}18\\\underline{9}\\9\end{array}$

More Practice

①

1.	31¢ +36¢	54¢ +23¢	25¢ +74¢	42¢ +47¢	13¢ +85¢	41¢ +36¢	23¢ +53¢
2.	75¢ +21¢	34¢ +42¢	52¢ +34¢	36¢ +22¢	42¢ +15¢	68¢ +31¢	52¢ +43¢
3.	36¢ +51¢	21¢ +43¢	12¢ +32¢	46¢ +23¢	24¢ +24¢	61¢ +15¢	31¢ +18¢

②

4.	62 +34	72 +24	13 +45	27 +51	44 +43	15 +34	23 +62
5.	34 +31	26 +72	56 +21	11 +25	13 +76	11 +53	45 +52
6.	23 +24	42 +37	38 +41	13 +63	52 +46	37 +22	55 +33

③

7.	79¢ −16¢	88¢ −31¢	44¢ −21¢	92¢ −71¢	47¢ −32¢	98¢ −24¢	85¢ −63¢
8.	65¢ −44¢	89¢ −27¢	66¢ −14¢	39¢ −23¢	84¢ −42¢	53¢ −32¢	73¢ −51¢
9.	96¢ −45¢	65¢ −22¢	79¢ −34¢	66¢ −33¢	58¢ −22¢	57¢ −43¢	78¢ −45¢
10.	54¢ −13¢	65¢ −54¢	96¢ −62¢	38¢ −13¢	99¢ −52¢	94¢ −32¢	77¢ −46¢

More Practice

④

1.	98	68	76	54	97	58	39
	−52	−25	−45	−22	−63	−43	−11
2.	46	94	57	85	76	95	63
	−12	−43	−15	−54	−33	−81	−51
3.	77	59	67	49	56	89	95
	−32	−14	−26	−23	−44	−42	−42
4.	69	59	94	88	69	87	53
	−18	−37	−52	−17	−42	−61	−22

⑤

5.	5	1	4	4	3	1	1	2	3
	3	6	1	4	3	3	6	1	4
	+1	+1	+3	+2	+2	+5	+3	+6	+3
6.	3	4	2	1	4	6	1	6	8
	1	2	5	3	4	2	7	2	1
	+5	+4	+1	+3	+1	+1	+2	+2	+1

⑥

7.	74	61	93	72	93	61	64
	+75	+57	+84	+86	+15	+45	+64
8.	81	62	85	71	87	93	84
	+26	+75	+84	+68	+71	+96	+93
9.	53	42	25	53	36	45	37
	+23	+47	+73	+41	+23	+32	+32
10.	74	42	23	61	74	82	82
	+31	+64	+42	+65	+62	+73	+92

⑦

1.	146	128	119	145	164	138	149
	−71	−64	−55	−73	−82	−76	−74
2.	179	148	157	124	116	186	135
	−86	−75	−74	−61	−65	−92	−74
3.	116	139	107	169	177	159	108
	−53	−62	−41	−88	−95	−87	−51
4.	136	167	149	127	158	118	154
	−64	−83	−75	−62	−86	−65	−71

⑧

5.	2	7	7	2	4	7	5	6	2
	7	2	1	3	5	2	1	3	4
	+2	+4	+7	+6	+1	+7	+5	+3	+5
6.	3	2	5	6	7	6	4	7	6
	3	4	2	1	2	3	2	1	1
	+6	+4	+7	+6	+5	+6	+7	+8	+8

⑨

7.	65	63	64	33	73	75	96
	+72	+96	+64	+81	+63	+34	+81
8.	61	23	82	91	81	54	91
	+83	+93	+43	+32	+67	+83	+45
9.	88	94	47	82	81	42	84
	+91	+62	+61	+55	+74	+84	+35
10.	72	93	86	75	61	93	56
	+86	+54	+83	+91	+48	+92	+52

More Practice

⑩

1.	72	71	90	33	91	66	85
	+91	+86	+51	+82	+84	+82	+40
2.	74	45	73	74	92	27	52
	+74	+63	+44	+51	+15	+92	+74
3.	70	95	96	94	67	52	53
	+63	+94	+33	+72	+50	+96	+81

⑪

4.	119	117	147	138	167	118	124
	−97	−83	−87	−92	−85	−63	−80
5.	157	119	157	139	175	136	126
	−80	−28	−66	−85	−83	−75	−96
6.	117	136	109	158	189	146	168
	−74	−63	−36	−66	−99	−94	−77

⑫

7.	664	510	214	221	155	263
	+234	+346	+253	+762	+831	+511
8.	432	124	301	453	250	123
	+537	+745	+636	+146	+629	+525
9.	634	532	326	143	417	143
	+342	+253	+473	+624	+382	+133
10.	242	205	412	373	121	406
	+455	+343	+436	+122	+255	+292

⑬

1.	5	7	4	6	6	5	4	3	3
	4	2	5	2	3	3	4	5	1
	+4	+4	+3	+5	+2	+3	+3	+3	+7
2.	5	3	8	4	5	6	6	8	6
	4	4	1	4	4	2	1	1	3
	+2	+4	+5	+4	+3	+4	+7	+2	+6

⑭

3.	67	99	64	128	117	148	117
	−56	−75	−41	−54	−73	−78	−82
4.	98	73	95	109	158	134	128
	−63	−22	−43	−88	−66	−53	−60
5.	99	86	77	126	176	117	151
	−37	−53	−35	−91	−90	−94	−81
6.	66	59	78	149	118	139	119
	−24	−49	−65	−86	−47	−74	−63

⑮

7.	878	679	757	985	576	655
	−543	−261	−105	−565	−254	−334
8.	499	682	847	349	968	985
	−275	−542	−133	−216	−432	−101
9.	389	756	885	597	686	985
	−134	−342	−422	−382	−475	−314
10.	798	746	288	943	725	849
	−478	−221	−156	−612	−621	−733

More Practice

⑯

1.	58	47	67	594	488	869	684
	−53	−43	−4	−93	−26	−862	−654

2.	86	29	79	907	896	389	786
	−4	−23	−76	−901	−52	−48	−781

3.	37	49	95	465	566	782	157
	−35	−4	−94	−162	−53	−742	−152

4.	39	55	75	227	998	464	837
	−37	−51	−3	−26	−17	−462	−827

⑰

5.	6	5	2	4	3	8	6	7	8
	5	6	8	7	9	4	8	3	6
	+7	+4	+5	+3	+7	+7	+3	+9	+4

6.	7	8	5	6	4	3	7	5	9
	6	8	8	6	9	8	8	9	7
	+5	+3	+6	+7	+3	+5	+4	+4	+3

⑱

7.	2	6	5	9	7	4	2	9	4
	7	8	4	6	9	5	7	4	7
	+5	+1	+8	+3	+2	+9	+6	+5	+4

8.	6	8	9	7	8	5	8	4	7
	9	5	8	7	2	7	7	8	4
	+2	+5	+2	+5	+6	+6	+3	+6	+5

9.	8	9	3	5	6	8	5	7	9
	3	5	7	5	7	9	4	5	3
	+6	+5	+6	+4	+6	+2	+9	+6	+5

⑲

1.
$$\begin{array}{rrrrrrrrr} 4 & 8 & 5 & 9 & 6 & 3 & 5 & 0 & 7 \\ 0 & 3 & 8 & 6 & 2 & 6 & 7 & 6 & 5 \\ 7 & 5 & 4 & 6 & 5 & 8 & 6 & 9 & 7 \\ \underline{+5} & \underline{+4} & \underline{+3} & \underline{+2} & \underline{+9} & \underline{+5} & \underline{+4} & \underline{+6} & \underline{+6} \end{array}$$

2.
$$\begin{array}{rrrrrrrrr} 1 & 8 & 2 & 0 & 7 & 7 & 3 & 5 & 4 \\ 6 & 1 & 5 & 8 & 5 & 4 & 6 & 7 & 8 \\ 2 & 5 & 9 & 7 & 9 & 8 & 9 & 9 & 4 \\ \underline{+7} & \underline{+8} & \underline{+7} & \underline{+9} & \underline{+3} & \underline{+1} & \underline{+8} & \underline{+5} & \underline{+5} \end{array}$$

3.
$$\begin{array}{rrrrrrrrr} 7 & 5 & 3 & 9 & 6 & 2 & 5 & 4 & 8 \\ 6 & 4 & 9 & 7 & 3 & 9 & 6 & 7 & 4 \\ 3 & 8 & 5 & 0 & 7 & 6 & 6 & 4 & 0 \\ \underline{+5} & \underline{+6} & \underline{+8} & \underline{+6} & \underline{+4} & \underline{+7} & \underline{+9} & \underline{+8} & \underline{+9} \end{array}$$

4.
$$\begin{array}{rrrrrrrrr} 6 & 2 & 9 & 3 & 8 & 5 & 4 & 7 & 8 \\ 5 & 7 & 3 & 0 & 6 & 9 & 9 & 7 & 2 \\ 4 & 6 & 8 & 8 & 5 & 1 & 4 & 8 & 3 \\ \underline{+7} & \underline{+5} & \underline{+4} & \underline{+9} & \underline{+6} & \underline{+7} & \underline{+6} & \underline{+4} & \underline{+8} \end{array}$$

⑳

5.
$$\begin{array}{rrrrrrrr} 17 & 25 & 24 & 47 & 74 & 33 & 68 & 18 \\ \underline{+57} & \underline{+49} & \underline{+67} & \underline{+35} & \underline{+16} & \underline{+38} & \underline{+19} & \underline{+42} \end{array}$$

6.
$$\begin{array}{rrrrrrrr} 19 & 38 & 42 & 58 & 56 & 26 & 45 & 64 \\ \underline{+25} & \underline{+27} & \underline{+19} & \underline{+26} & \underline{+35} & \underline{+59} & \underline{+47} & \underline{+29} \end{array}$$

7.
$$\begin{array}{rrrrrrrr} 46 & 27 & 17 & 18 & 79 & 24 & 38 & 39 \\ \underline{+29} & \underline{+13} & \underline{+59} & \underline{+77} & \underline{+16} & \underline{+27} & \underline{+16} & \underline{+48} \end{array}$$

8.
$$\begin{array}{rrrrrrrr} 16 & 52 & 68 & 24 & 69 & 17 & 35 & 17 \\ \underline{+47} & \underline{+19} & \underline{+12} & \underline{+36} & \underline{+25} & \underline{+35} & \underline{+59} & \underline{+67} \end{array}$$

More Practice

21

1.	37 +83	49 +54	58 +66	73 +27	98 +34	37 +69	97 +56	67 +58
2.	47 +77	22 +79	89 +55	71 +39	26 +84	65 +86	95 +45	62 +68
3.	96 +68	48 +88	59 +59	95 +78	78 +59	58 +43	95 +87	49 +72
4.	46 +96	58 +97	74 +46	69 +41	68 +72	73 +89	66 +39	78 +75

22

5.	26 78 +12	41 59 +44	97 32 +43	93 78 +11	42 47 +54	78 74 +25	49 36 +68	28 97 +24
6.	47 21 +37	57 59 +52	38 79 +56	96 86 +13	83 36 +57	42 58 +37	74 69 +19	19 69 +16
7.	85 50 +39	27 63 +34	72 47 +26	45 76 +45	95 69 +32	49 84 +34	57 98 +37	75 41 +64
8.	14 46 +27	29 23 +25	36 97 +66	67 18 +43	82 68 +15	89 30 +68	56 79 +21	54 83 +39
9.	38 24 +32	37 35 +18	22 49 +24	56 27 +65	47 65 +43	58 72 +39	49 68 +17	57 46 +56

㉓

1.	38	67	9	48	55	28	63
	8	18	44	37	8	23	6
	+46	+9	+17	+6	+17	+9	+17
2.	35	28	9	28	20	16	9
	9	23	25	63	9	63	14
	+34	+8	+54	+5	+45	+7	+74

㉔

3.	84¢	76¢	44¢	83¢	98¢	61¢	60¢
	−45¢	−29¢	−36¢	−57¢	−29¢	−43¢	−54¢
4.	63¢	82¢	95¢	70¢	83¢	72¢	52¢
	−34¢	−27¢	−58¢	−33¢	−65¢	−18¢	−16¢
5.	75¢	41¢	63¢	61¢	75¢	60¢	57¢
	−36¢	−15¢	−49¢	−56¢	−27¢	−32¢	−29¢

㉕

6.	47	86	50	155	132	134	144
	−19	−17	−36	−86	−75	−65	−76
7.	52	30	85	126	131	131	122
	−47	−15	−58	−58	−47	−59	−33
8.	91	63	56	160	118	120	171
	−78	−34	−17	−75	−79	−63	−94
9.	97	75	60	154	142	131	110
	−48	−29	−58	−67	−99	−82	−42
10.	73	95	74	122	143	162	100
	−38	−59	−59	−78	−65	−66	−39

More Practice

㉖

1.	71 −44	75 −38	61 −56	94 −37	73 −29	70 −66	51 −42
2.	40 −37	82 −44	77 −59	86 −28	91 −85	31 −23	94 −49
3.	70 −61	90 −25	45 −37	80 −78	77 −49	20 −13	90 −72

㉗

4.	$6.38 +2.29	$7.48 +1.24	$1.14 +3.76	$2.47 +3.47	$3.07 +2.58	$2.49 +5.36
5.	$5.32 +1.58	$2.34 +6.49	$4.08 +1.63	$5.25 +4.17	$5.16 +3.16	$2.06 +1.78
6.	$7.13 +2.47	$6.19 +1.59	$2.45 +4.15	$1.07 +4.26	$5.15 +2.69	$3.89 +4.03

㉘

7.	$2.45 +6.84	$3.90 +4.57	$4.83 +1.84	$2.66 +3.93	$6.68 +2.40	$1.90 +7.35
8.	$1.83 +2.92	$2.83 +5.31	$5.84 +2.53	$1.30 +4.76	$3.54 +2.74	$2.92 +1.63
9.	$5.52 +3.96	$4.92 +2.22	$2.45 +2.93	$7.66 +1.52	$6.68 +2.40	$1.90 +7.35
10.	$1.71 +1.94	$3.32 +3.85	$6.94 +1.41	$1.40 +5.63	$4.84 +3.45	$3.73 +1.66

㉙

1.	356	399	648	287	578	467
	+257	+102	+179	+347	+176	+345
2.	169	298	474	165	238	439
	+489	+223	+257	+759	+168	+484
3.	597	247	184	357	452	251
	+259	+483	+636	+364	+179	+649
4.	398	536	168	129	157	479
	+477	+378	+132	+375	+243	+477

㉚

5.	48¢	98¢	66¢	39¢	63¢	80¢	83¢
	73¢	19¢	16¢	41¢	74¢	28¢	44¢
	+26¢	+23¢	+49¢	+58¢	+35¢	+26¢	+33¢
6.	68¢	33¢	95¢	71¢	90¢	68¢	84¢
	72¢	19¢	95¢	32¢	19¢	27¢	25¢
	+29¢	+66¢	+16¢	+17¢	+27¢	+47¢	+42¢

㉛

7.	$9.64	$5.97	$9.74	$9.72	$7.80	$6.42
	−2.56	−2.39	−5.45	−8.13	−1.67	−3.36
8.	$4.75	$8.85	$8.21	$5.63	$6.54	$9.81
	−3.49	−6.47	−7.06	−3.49	−4.37	−6.19
9.	$9.42	$5.72	$8.95	$9.40	$9.41	$8.13
	−3.17	−1.24	−4.88	−7.36	−4.25	−3.07
10.	$6.83	$7.40	$7.71	$9.66	$7.40	$4.64
	−6.05	−6.13	−2.37	−9.59	−3.05	−4.28

More Practice

㉜

1. $\begin{array}{r}\$4.05\\-1.63\\\hline\end{array}$ $\begin{array}{r}\$8.76\\-6.93\\\hline\end{array}$ $\begin{array}{r}\$9.59\\-7.84\\\hline\end{array}$ $\begin{array}{r}\$8.38\\-5.43\\\hline\end{array}$ $\begin{array}{r}\$8.17\\-3.31\\\hline\end{array}$ $\begin{array}{r}\$6.09\\-2.43\\\hline\end{array}$

2. $\begin{array}{r}\$9.28\\-5.52\\\hline\end{array}$ $\begin{array}{r}\$6.39\\-4.97\\\hline\end{array}$ $\begin{array}{r}\$9.57\\-6.67\\\hline\end{array}$ $\begin{array}{r}\$4.36\\-3.62\\\hline\end{array}$ $\begin{array}{r}\$4.66\\-1.75\\\hline\end{array}$ $\begin{array}{r}\$5.49\\-4.82\\\hline\end{array}$

3. $\begin{array}{r}\$7.56\\-1.74\\\hline\end{array}$ $\begin{array}{r}\$7.38\\-5.85\\\hline\end{array}$ $\begin{array}{r}\$4.67\\-2.94\\\hline\end{array}$ $\begin{array}{r}\$9.47\\-3.52\\\hline\end{array}$ $\begin{array}{r}\$7.29\\-3.65\\\hline\end{array}$ $\begin{array}{r}\$3.48\\-2.94\\\hline\end{array}$

㉝

4. $\begin{array}{r}821\\-552\\\hline\end{array}$ $\begin{array}{r}442\\-253\\\hline\end{array}$ $\begin{array}{r}873\\-698\\\hline\end{array}$ $\begin{array}{r}731\\-246\\\hline\end{array}$ $\begin{array}{r}945\\-698\\\hline\end{array}$ $\begin{array}{r}311\\-164\\\hline\end{array}$

5. $\begin{array}{r}612\\-499\\\hline\end{array}$ $\begin{array}{r}894\\-296\\\hline\end{array}$ $\begin{array}{r}815\\-439\\\hline\end{array}$ $\begin{array}{r}933\\-386\\\hline\end{array}$ $\begin{array}{r}752\\-495\\\hline\end{array}$ $\begin{array}{r}957\\-758\\\hline\end{array}$

6. $\begin{array}{r}564\\-368\\\hline\end{array}$ $\begin{array}{r}526\\-288\\\hline\end{array}$ $\begin{array}{r}737\\-369\\\hline\end{array}$ $\begin{array}{r}611\\-253\\\hline\end{array}$ $\begin{array}{r}810\\-321\\\hline\end{array}$ $\begin{array}{r}513\\-444\\\hline\end{array}$

㉞

7. $\begin{array}{r}800\\-366\\\hline\end{array}$ $\begin{array}{r}903\\-259\\\hline\end{array}$ $\begin{array}{r}652\\-393\\\hline\end{array}$ $\begin{array}{r}800\\-273\\\hline\end{array}$ $\begin{array}{r}203\\-156\\\hline\end{array}$ $\begin{array}{r}900\\-734\\\hline\end{array}$

8. $\begin{array}{r}200\\-146\\\hline\end{array}$ $\begin{array}{r}700\\-311\\\hline\end{array}$ $\begin{array}{r}704\\-568\\\hline\end{array}$ $\begin{array}{r}300\\-195\\\hline\end{array}$ $\begin{array}{r}825\\-597\\\hline\end{array}$ $\begin{array}{r}606\\-437\\\hline\end{array}$

9. $\begin{array}{r}712\\-175\\\hline\end{array}$ $\begin{array}{r}600\\-242\\\hline\end{array}$ $\begin{array}{r}913\\-438\\\hline\end{array}$ $\begin{array}{r}706\\-689\\\hline\end{array}$ $\begin{array}{r}900\\-591\\\hline\end{array}$ $\begin{array}{r}700\\-226\\\hline\end{array}$

10. $\begin{array}{r}500\\-253\\\hline\end{array}$ $\begin{array}{r}825\\-489\\\hline\end{array}$ $\begin{array}{r}800\\-377\\\hline\end{array}$ $\begin{array}{r}754\\-476\\\hline\end{array}$ $\begin{array}{r}400\\-288\\\hline\end{array}$ $\begin{array}{r}901\\-667\\\hline\end{array}$

㉟

1.	36 +49	60 −27	63 −39	353 +426	506 −271	442 −124
2.	84 −77	24 +46	19 +49	840 −241	187 +125	165 +279
3.	36 +29	43 −35	95 −26	448 +448	737 −289	695 −438

㊱

4.	24 ×2	33 ×2	42 ×2	11 ×2	132 ×2	114 ×2	232 ×2
5.	43 ×2	22 ×2	13 ×2	44 ×2	431 ×2	312 ×2	434 ×2
6.	32 ×2	41 ×2	23 ×2	34 ×2	243 ×2	412 ×2	341 ×2

㊲

7.	218 ×3	148 ×2	436 ×2	200 ×3	324 ×3	319 ×2
8.	235 ×2	203 ×4	127 ×3	102 ×6	126 ×3	409 ×2
9.	112 ×7	306 ×3	327 ×2	113 ×5	207 ×2	109 ×3
10.	618 ×2	907 ×3	415 ×3	719 ×2	203 ×8	518 ×3

More Practice

㊳

1.	$\begin{array}{r}29\\\times4\\\hline\end{array}$	$\begin{array}{r}71\\\times4\\\hline\end{array}$	$\begin{array}{r}36\\\times4\\\hline\end{array}$	$\begin{array}{r}94\\\times4\\\hline\end{array}$	$\begin{array}{r}117\\\times4\\\hline\end{array}$	$\begin{array}{r}205\\\times4\\\hline\end{array}$
2.	$\begin{array}{r}52\\\times4\\\hline\end{array}$	$\begin{array}{r}18\\\times4\\\hline\end{array}$	$\begin{array}{r}45\\\times4\\\hline\end{array}$	$\begin{array}{r}60\\\times4\\\hline\end{array}$	$\begin{array}{r}124\\\times4\\\hline\end{array}$	$\begin{array}{r}213\\\times4\\\hline\end{array}$
3.	$\begin{array}{r}14\\\times9\\\hline\end{array}$	$\begin{array}{r}42\\\times7\\\hline\end{array}$	$\begin{array}{r}24\\\times5\\\hline\end{array}$	$\begin{array}{r}83\\\times4\\\hline\end{array}$	$\begin{array}{r}104\\\times6\\\hline\end{array}$	$\begin{array}{r}116\\\times4\\\hline\end{array}$
4.	$\begin{array}{r}37\\\times4\\\hline\end{array}$	$\begin{array}{r}89\\\times4\\\hline\end{array}$	$\begin{array}{r}75\\\times4\\\hline\end{array}$	$\begin{array}{r}43\\\times8\\\hline\end{array}$	$\begin{array}{r}408\\\times4\\\hline\end{array}$	$\begin{array}{r}516\\\times4\\\hline\end{array}$

㊴

5.	$4\overline{)84}$	$4\overline{)200}$	$4\overline{)444}$	$4\overline{)288}$	$4\overline{)160}$	$4\overline{)324}$
6.	$4\overline{)40}$	$4\overline{)360}$	$4\overline{)804}$	$4\overline{)480}$	$4\overline{)328}$	$4\overline{)840}$
7.	$4\overline{)88}$	$4\overline{)448}$	$4\overline{)244}$	$4\overline{)124}$	$4\overline{)168}$	$4\overline{)364}$
8.	$4\overline{)44}$	$4\overline{)400}$	$4\overline{)280}$	$4\overline{)368}$	$4\overline{)128}$	$4\overline{)440}$

㊵

9.	$\begin{array}{r}61\\\times5\\\hline\end{array}$	$\begin{array}{r}19\\\times5\\\hline\end{array}$	$\begin{array}{r}23\\\times5\\\hline\end{array}$	$\begin{array}{r}74\\\times5\\\hline\end{array}$	$\begin{array}{r}109\\\times5\\\hline\end{array}$	$\begin{array}{r}413\\\times5\\\hline\end{array}$
10.	$\begin{array}{r}37\\\times5\\\hline\end{array}$	$\begin{array}{r}40\\\times5\\\hline\end{array}$	$\begin{array}{r}86\\\times5\\\hline\end{array}$	$\begin{array}{r}52\\\times5\\\hline\end{array}$	$\begin{array}{r}115\\\times5\\\hline\end{array}$	$\begin{array}{r}205\\\times5\\\hline\end{array}$
11.	$\begin{array}{r}28\\\times5\\\hline\end{array}$	$\begin{array}{r}51\\\times7\\\hline\end{array}$	$\begin{array}{r}25\\\times9\\\hline\end{array}$	$\begin{array}{r}50\\\times6\\\hline\end{array}$	$\begin{array}{r}105\\\times8\\\hline\end{array}$	$\begin{array}{r}114\\\times5\\\hline\end{array}$
12.	$\begin{array}{r}87\\\times5\\\hline\end{array}$	$\begin{array}{r}95\\\times5\\\hline\end{array}$	$\begin{array}{r}63\\\times5\\\hline\end{array}$	$\begin{array}{r}24\\\times5\\\hline\end{array}$	$\begin{array}{r}617\\\times5\\\hline\end{array}$	$\begin{array}{r}309\\\times5\\\hline\end{array}$

Suggestions to Teachers

NUMBER RELATIONSHIPS

Addition Facts with Sums to 10. To aid the pupil in memorizing the addition facts, repeated use is made of important relationships. One of these relationships, known as the *principle of reverses*, is presented on page 12. This principle enables the child to help himself when he forgets the answer to a number fact.

Two other relationships, which simplify the learning of the zero facts in addition and subtraction, are given on pages 84 and 85.

Sums over 10. There are 36 addition facts having sums over 10. To facilitate the learning of these facts through number relationships, they are divided into five groups as follows: 4 doubles (pages 41, 42); 8 near doubles (pages 44–46); 12 facts containing 9 (pages 62–64); 8 facts containing 8 (pages 74–76); and 4 miscellaneous facts (page 82). Grouped thus, these facts are easily learned.

In developing these 36 facts, liberal use of small objects must be made in the classroom. The text presents pictures of small objects to give meaning to the work. After the pupil understands the meaning of each fact, memorizing should begin. In this memorization stage the use of number relationships is effective because they enable the pupil to give the answer to each fact *mentally* without being obliged to count objects again. As soon as the child is able to give promptly and consistently the correct answer to a fact, he no longer needs to use the number relationships. Facts with answers are given on page 311 and 312.

Subtraction and Division Facts. After the pupil understands the meaning of the subtraction or the division facts, he will be greatly aided in remembering the answers by relating the subtraction facts to the corresponding addition facts (pages 43, 48, 49, etc.) and by relating the even division facts to the corresponding multiplication facts (pages 242–245 and 253–255).

PROVISION FOR INDIVIDUAL DIFFERENCES AND REVIEW

Supplementary Exercises. Pages 313–326 give sets of supplementary practice material that can be used in several ways. References to these exercises have been made on certain pages of the text where more practice may be needed. The teacher decides when to assign this material. It may also be used for review.

Use of Chapter 8. Chapter 8 teaches the multiplication and division facts for the 4's and 5's, this work being required in certain schools. Schools teaching only the multiplication and division facts for the 2's and 3's may omit pages 281–299. However, pages 300–310 review and test the year's work and should be used by all schools. Pages 300–310 do not contain work on the 4's and 5's.

Enrichment Work for Superior Pupils. All of Chapter 8, including the 4's and 5's, may be used for superior pupils in schools requiring only the 2's and 3's for all pupils. Pages 296–299 are especially suited to the needs of superior pupils.

Additive Method of Subtraction

This page is for teachers who use the additive method of subtraction. The basic idea of additive subtraction is to find a number to add to the lower number (subtrahend) to make the top number (minuend). Borrowing is not required in this method and for that reason the additive method is often easier for pupils to learn than the take-away method. The pages where subtraction is taught are listed below. In each case the model example is explained by the additive method of subtraction.

Page 37. You have learned that you can subtract 4 from 7 by adding enough to 4 to make 7. If you add 3 to 4, you get 7. So 3 is the answer.

In the same way you can subtract 12 from 25 by adding enough to 12 to make 25. Think, "2 ones + 3 ones = 5 ones." Write 3 in ones place. Think, "1 ten + 1 ten = 2 tens." Write 1 in tens place. The answer is 13. If you add 13 to 12 you get 25, so the answer is right.

$$\begin{array}{r}25\\ \underline{12}\\ 13\end{array}$$

Page 59. Think, "4 ones + 4 ones = 8 ones." Write 4 in ones place. Remember that 1 hundred and 5 tens is the same as 15 tens. Think, "8 tens + 7 tens = 15 tens." Write 7 in tens place. The answer is 74. 74 + 84 = 158, so the answer is right.

$$\begin{array}{r}158\\ \underline{84}\\ 74\end{array}$$

Page 103. Think, "3 ones + 2 ones = 5 ones." Write 2 in ones place. Think, "2 tens + 3 tens = 5 tens." Write 3 in tens place. Think, "4 hundreds + 2 hundreds = 6 hundreds." Write 2 in hundreds place. The answer is 232. 232 + 423 = 655, so the answer is right.

$$\begin{array}{r}655\\ \underline{423}\\ 232\end{array}$$

Page 104. Think, "5 ones + 3 ones = 8 ones." Write 3 in ones place. Think, "4 tens + 0 tens = 4 tens." Do not write 0 because there are no more numbers at the left to subtract. The answer is 3. 3 + 45 = 48.

$$\begin{array}{r}48\\ \underline{45}\\ 3\end{array}$$

Page 146. 4 ones are more than 2 ones, so you cannot add a number to 4 to make 2. But you can add a number to 4 to make 12. Think, "4 + 8 = 12." Write 8 in ones place. Carry the 1 ten of 12 to tens column and add it to 2 tens, making 3 tens. Think, "3 + 1 = 4." Write 1 in tens place. The answer is 18. You see that 18 added to 24 makes 42, so the answer is right.

$$\begin{array}{r}42\\ \underline{24}\\ 18\end{array}$$

Page 147. Think, "8 + 7 = 15." Write 7 in ones place. Carry the 1 ten of 15 to tens column and add it to 2 tens, making 3 tens. Think, "3 + 1 = 4." Write 1 in tens place. The answer is 17. 17 + 28 = 45, so the answer is right.

$$\begin{array}{r}45\\ \underline{28}\\ 17\end{array}$$

Page 148. Think, "9 + 3 = 12." Write 3 in ones place. Carry 1 ten to tens column and add it to 8 tens, making 9 tens. Remember that 1 hundred and 4 tens is the same as 14 tens. Think, "9 + 5 = 14." Write 5 in tens place. The answer is 53. You see that 53 + 89 = 142.

$$\begin{array}{r}142\\ \underline{89}\\ 53\end{array}$$

Additive Method of Subtraction

Page 181. Think, "8¢ + 7¢ = 15¢." Write 7 in cents place. Carry 1 dime to dimes column and add it to 4 dimes, making 5 dimes. Think, "5 dimes + 2 dimes = 7 dimes." Write 2 in dimes place. Think, "$6 + $3 = $9." Write 3 in dollars place. The answer is $3.27. $3.27 + $6.48 = $9.75.

$$\begin{array}{r} \$9.75 \\ 6.48 \\ \hline \$3.27 \end{array}$$

Page 182. Think, "9 + 4 = 13." Write 4 in ones place. Add 1 ten to 4 tens, making 5 tens. Think, "5 + 3 = 8." Write 3 in tens place. Think, "5 + 1 = 6." Write 1 in hundreds place. The answer is 134. 134 + 549 = 683.

$$\begin{array}{r} 683 \\ 549 \\ \hline 134 \end{array}$$

Page 184. Think, "5¢ + 0¢ = 5¢." Write 0 in cents place. Think, "8 dimes + 9 dimes = 17 dimes." Write 9 in dimes place. Add $1 to $5, making $6. Think, "$6 + $3 = $9." Write 3 in dollars place. The answer is $3.90. You see that $3.90 + $5.85 = $9.75.

$$\begin{array}{r} \$9.75 \\ 5.85 \\ \hline \$3.90 \end{array}$$

Page 185. Think, "5 + 3 = 8." Write 3 in ones place. Think, "9 + 6 = 15." Write 6 in tens place. Add 1 hundred to 3 hundreds, making 4 hundreds. Think, "4 + 0 = 4." Do not write 0 because there are no more numbers to subtract. The answer is 63. You see that 63 + 395 = 458, so the answer is right.

$$\begin{array}{r} 458 \\ 395 \\ \hline 63 \end{array}$$

Page 190. Think, "5 + 5 = 10." Write 5 in ones place. Add 1 ten to 7 tens, making 8 tens. Think, "8 + 6 = 14." Write 6 in tens place. Add 1 hundred to 1 hundred, making 2 hundreds. Think, "2 + 3 = 5." Write 3 in hundreds place. The answer is 365. You see that 365 + 175 = 540, so the answer is right.

$$\begin{array}{r} 540 \\ 175 \\ \hline 365 \end{array}$$

Page 193. Think, "8 + 2 = 10." Write 2 in ones place. Add 1 ten to 2 tens, making 3 tens. Think, "3 + 7 = 10." Write 7 in tens place. Add 1 hundred to 3 hundreds, making 4 hundreds. Think, "4 + 1 = 5." Write 1 in hundreds place. The answer is 172. You see that 172 + 328 = 500, so the answer is right.

$$\begin{array}{r} 500 \\ 328 \\ \hline 172 \end{array}$$

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